Enterprise Manager API Guide

Qlik Enterprise Manager™

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Contents

Contents

Contents

Contents

Contents

Contents

Contents

1   Qlik Enterprise Manager API guide

The Qlik Enterprise Manager APIs provide programmatic interfaces for performing tasks typically carried out using the Enterprise Manager web console, including:

- Viewing a list of tasks for a server
- Viewing details for a particular task
- Stopping a task
- Running a task
- Exporting all definitions from the requested server repository on the selected server
- Importing the JSON definitions provided in the request body into the requested server repository on the selected server
- Reloading a table
- Exporting a task
- Importing a task
- Testing an endpoint's connectivity and configuration

The Enterprise Manager APIs allow other systems to interact with Enterprise Manager, for example, to display data about one or more tasks in a user's dashboard. They also offer a quick and easy way of running batch operations.

Using an API requires basic familiarity with web services, Replicate, and Enterprise Manager.

> *The following methods are supported with Replicate tasks only:*
>
> - *ImportAll*
> - *ExportAll*
> - *ExportTask*
> - *TestEndpoint*
> - *GetEndpointList*
> - *DeleteEndpoint*
> - *ImportTask*
> - *DeleteTask*
> - *ReloadTable*
> - *UnsuspendTable*

2 Enterprise Manager REST API

This section explains how to use the Enterprise Manager REST API and lists the available methods.

In this section:

2.1   Prerequisites

Before using the Enterprise Manager REST API, make sure that:

- Qlik Enterprise Manager has been installed.
- The Qlik Enterprise Manager service is active.
- The relevant permissions have been granted.

2.2   Standards and conventions

The API is based on the following standards:

- Names: Camel Case, such as GetTaskList
- Date and time format: ISO 8601 (YYYY-MM-DD HH:MM:SS), in UTC (Universal Time Coordinated) Example: 2007-04-05T14:30:25 (implicitly interpreted as UTC without the explicit trailing Z).
- Standard URL format: api/v1/URL

In addition, this topic uses the following conventions:

- Parameters in examples appear in curly brackets as {xx} and should be replaced with an actual value. An example of a parameter is {server}, which should be replaced by the server name or IP address of the machine where Replicate is installed. For a list of parameters, see *Parameters (page 284)*.

All examples in this chapter use cURL as the HTTP engine.

In terms of forward and backward compatibility of the Enterprise Manager REST API, the caller should expect future releases to add new optional request parameters and additional data items in responses.

2.3   Authentication and authorization

The Enterprise Manager REST API uses the BASIC HTTP authorization scheme to authenticate callers and create a client session. A client session is established using the *Login (page 21)* method, which returns the special header "EnterpriseManager.APISessionID" with a value (session token) that needs to be sent as a request header in any subsequent requests.

A session token expires 5 minutes after the last request. After the session expires, the caller must re-authenticate to establish a new session.

Authorization for performing a specific REST request relies on permission, assigned to the authenticated user either directly or by means of group membership. Each REST request requires a minimum role, which is specified in the section describing the request.

2.4   Error handling

An error response has the following structure:

```
{
"error_code":"code","error_message":"message"
}
```

This section lists the generic messages that apply to most of the API functions. Errors that are specific to a particular API function appear in the section for that API function.

Error responses

Error Code	Message	Description
UNAUTHORIZED_REQUEST	Unauthorized Request.	The user is not authorized to perform the requested action (for example, deleting a task).
INVALID_SESSION_ID	The session has expired or the session ID is not valid.	Session expired or invalid.
DESERIALIZE_TO_TYPE	Failed to deserialize JSON to type {type}: {message}	Returned when the JSON format is invalid.
AEM_SERVER_NOT_FOUND	The requested server {server} could not be found.	The requested server cannot be found.
AEM_SERVER_NOT_MONITORED	The requested server {server} is not monitored.	The requested server is not being monitored and thus the information is not accessible.
AEM_SERVER_NOT_CONNECTED	The requested server "{server}" cannot be reached at this time. Message: {message}	The desired information cannot be retrieved as the requested server is not connected.
AEM_SERVER_LICENSE_EXPIRED	The license for requested server {server} has expired.	The requested server license has expired.
AEM_SERVER_INVALID_LICENSE	The license for requested server {server} is not valid.	The requested server license is not valid.

Error Code	Message	Description
LICENSE_NOT_ FOUND	You need to register a Replication Management license in order to use Qlik Enterprise Manager. To register or obtain a license, open the Qlik Enterprise Manager console and follow the instructions.	Replication Management license was not found. Returned when a user is permitted to Register Qlik Enterprise Manager license.
LICENSE_NOT_ FOUND_CONTACT_ ADMIN	An Enterprise Manager Admin needs to register a Replication Management license before you can use the product. To obtain a license, contact your Qlik Sales Representative with the Enterprise Manager machine name (which is displayed when you open the Enterprise Manager console).	Replication Management license was not found. Returned when a user is NOT permitted to Register Qlik Enterprise Manager license.
LICENSE_ EVALUATION_ EXPIRED	{Module} evaluation license has expired.	{Module} is one of the following: • Replication Management • Replication Analytics
LICENSE_TERM_ EXPIRED	{Module} license has expired.	{Module} is one of the following: • Replication Management • Replication Analytics
LICENSE_INVALID_ SIGNATURE	The {Module} license signature is invalid.	{Module} is one of the following: • Replication Management • Replication Analytics
LICENSE_HOST_ MISMATCH	The host name in the {Module} license does not match the Enterprise Manager machine name.	{Module} is one of the following: • Replication Management • Replication Analytics

Error Code	Message	Description
AEM_MISSING_FIELD	The "{fieldName}" field is missing from the request.	When a mandatory field is missing from the request or appears empty

2.5   Login

General

URL

https://`{host}`/attunityenterprisemanager/api/v1/login

Description

Authenticates an API caller with Enterprise Manager using Active Directory, and acquires a session token to be used with API method calls. The server requests client authentication.

HTTP method

GET

POST

Required user role

See *Required Enterprise Manager permissions (page 291)*.

Request parameters

Request parameters

Location	URL Parameter Name	Required	Example
URL	`host` [string]	Yes	computer.network.net

Location	URL Parameter Name	Required	Example
Header (only required when using Active Directory, OpenID Connect, or JWT authentication) ⓘ *The basic authentication header needs to be converted to base 64 [string].*	**When using Active Directory authentication:** `user@domain:`*`password`* **When using OpenID Connect authentication:** `api-token:`*`personal-`* *`access-token`* ⓘ *This login method requires you to be in possession of a Personal Access Token generated in Enterprise Manager.* **When authenticating with a JWT:** ⓘ *This login method requires you to be in possession of a JWT.* `jwt:`*`Actual-JWT-token`*	Yes	-

ⓘ *The user password cannot contain a colon (:).*

Response header

Response header parameters

URL Param Name	Description
EnterpriseManager.APISessionID	Identifier to be used to get authorization to run API functions on Enterprise Manager

cURL example

Active Directory request

```
curl -i -k --header "Authorization: Basic cWFACWE6cWE="
https://computer.network.net/attunityenterprisemanager/api/v1/login
```

OpenID Connect request

```
curl -i -k --header "Authorization: Basic Z3dDN2FleHJJVDdpZ0hBRjI2dkxCTDJIUi9JTHJKYXFkZT"
https://computer.network.net/attunityenterprisemanager/api/v1/login
```

Response

```
HTTP/1.1 200 OK

Content-Length: 0

Content-Type: text/html

Server: Microsoft-HTTPAPI/2.0

EnterpriseManager.APISessionID: J3cKzWIbi_w6Fr1G-tO03Q

Date: Mon, 26 Dec 2016 17:02:01 GMT
```

Error response

Error responses

HTTP Code	Enterprise Manager Code	Text	Description
401	UNAUTHORIZED_ REQUEST	Unauthorized Request.	The request was not authorized.

2.6   Logout

General

URL

https://`{host}`/attunityenterprisemanager/api/v1/logout

Description

End a session

HTTP method

GET

Required user role

See *[Required Enterprise Manager permissions (page 291)](#)*.

Request parameters

Location	URL Param Name	Required	Example
URL	`host` [string]	Yes	computer.network.net
Header	EnterpriseManager.APISessionID [string]	Yes	wCo0_KvjEUFROvfHF5KGrw

Request parameters

cURL example

Request

```
curl -i -k --header "EnterpriseManager.APISessionID: wCo0_KvjEUFROvfHF5KGrw A"
https://computer.network.net/attunityenterprisemanager/
api/v1/logout
```

Response

```
Header:

HTTP/1.1 200 OK

Content-Length: 0

Content-Type: text/html

Server: Microsoft-HTTPAPI/2.0

Date: Tue, 27 Dec 2016 08:00:27 GMT
```

2.7   PutServerLicense

General

URL

https://[host]/attunityenterprisemanager/api/v1/servers/[server]/license/def

Description

Registers a license on a specific server via Qlik Enterprise Manager.

HTTP method

PUT

Required user role

See *Required Enterprise Manager permissions (page 291)*.

Request parameters

<div align="center">Request parameters</div>

Location	Name	Required	Example
URL	`Host` [string]	Yes	computer.network.net
URL	ServerName [string]	Yes	The name of the server in Enterprise Manager: myrepsrv1
Header	EnterpriseManager.APISessionID [string]	Yes	wCo0_KvjEUFROvfHF5KGrw

Request body

The license to register on the server [stream].

This is the license that was provided by your Qlik Sales Representative.

Expected format: Text or JSON.

Currently refers to the Replicate license only.

cURL example

Request

```
curl -i -k -X PUT --header "EnterpriseManager.APISessionID: wCo0_KvjEUFROvfHF5KGrw" --header
"Content-Length: 324"
"https://computer.network.net/attunityenterprisemanager/api/v1/servers/myrepsrv1/license/def"
-T "C:\license_exp2018-02-07_ser90000319.txt"
```

Request body

```
(content of "C:\license_exp2018-02-07_ser90000319.txt ")
```

#

Temporary license for development

#

license_type=evaluation_license

licensed_to=Qlik Internal - Qlik Replicate Development

licensed_by=Miki

serial_no=2333

expiration_date=2018-01-31

source_types=

target_types=

features=manager

version=5.5.0.0

issue_date=2017-11-01

checksum=C2855-R5J8F-JF8RQ-C3K7K

Response

```
Header:

HTTP/1.1 200 OK
Cache-Control: no-cache, no-store
Content-Length: 38
Content-Type: application/json; charset=utf-8
Server: Microsoft-HTTPAPI/2.0
Date: Mon, 26 Dec 2016 16:31:01 GMT
```

Error response

All of the general errors as well as the errors listed in the table below.

<div align="center">Error responses</div>

HTTP Code	Enterprise Manager Code	Text	Description
500	AEM_PUT_ SRV_LIC_ INNER_ERR	Failed to put license for server "{server}". Error: " {message}"	Returned if Qlik Enterprise Manager encounters an error/exception when trying to register the license on the specified server.
500	AEM_SRV_ LIC_INVALID_ FORMAT	The license file format is corrupt.	Returned when the contents of the license file are invalid.

2.8   GetServerDetails

General

URL

https://{host}/attunityenterprisemanager/api/v1/servers/[server]

Description

Retrieves details about the specified server.

HTTP method

GET

Required user role

See *Required Enterprise Manager permissions (page 291)*.

Request parameters

<div align="center">Request parameters</div>

Location	Name	Required	Example
URL	`host` [string]	Yes	computer.network.net
URL	`ServerName` [string]	Yes	myrepsrv1
Header	EnterpriseManager.APISessionID [string]	Yes	wCo0_KvjEUFROvfHF5KGrw

Response body

```
{
"serverDetails":{
"$type":"{string}",
"name":"{string}",
"description":"{string}",
"configuration":{
"host":"{string}",
"platform":"{enum server_platform}",
"port":"{string}",
"username":"{string}"
},
"state":"{enum server_state}",
"message": "{string}",
"version": "{string}",
"license":{
"issue_date":"{string}",
"state":"{enum license_state}",
"expiration":"{string}",
"days_to_expiration":"{int32}"
},
"last_connection":"{string}",
"task_summary":{
"total":"{int32}",
"running":"{int32}",
"stopped":"{int32}",
"recovering":"{int32}",
"error":"{int32}"
},
"resource_utilization":{
"disk_usage_mb":"{int64}",
"memory_mb":"{int64}",
"attunity_cpu_percentage":"{int32}",
"machine_cpu_percentage":"{int32}"
},
}
}
```

Response parameters

General parameters

Name	Description
$type	The server's type, which can either be `ReplicateServerDetails` or `ComposeServerDetails`.
Name	The name of the server in Qlik Enterprise Manager.
Description	The server description

configuration parameters

Name	Description
host	The host name or IP address of the Replicate/Compose Server machine.
platform	The platform on which the Replicate/Compose Server machine is installed.
port	The port through which the Replicate/Compose Server machine is accessed.
user name	The user name for connecting to the Replicate/Compose Server machine.
State	The current monitoring state of the Replicate/Compose Server machine.
message	The error message if Qlik Enterprise Manager fails to connect to the Replicate/Compose Server machine.
version	The Replicate/Compose Server version.

license parameters

Name	Description
issue_date	When the license was issued.
state	The current license state (for example, valid, expired, and so on.).
expiration	The expiration date of the server license.
days_to_expiration	The number of days left before the license expires.
last_connection	The date and time of the last successful sync/retrieval of tasks and messages.

task_summary parameters

Name	Description
total	The total number of tasks, regardless of state.
running	The number of running tasks.
stopped	The number of stopped tasks.
recovering	The number of recovering tasks.
error	The number of tasks that encountered a fatal error.

resource_utilization parameters

Name	Description
disk_usage_ mb	The amount of disk space that the server is currently consuming, in MB. This is the sum of disk usage for all tasks on this server.
memory_mb	The amount of memory that the server is currently consuming, in MB. This is the sum of memory usage for all active tasks on this server, excluding stopped tasks.
attunity_cpu_ percentage	The current CPU usage of the Replicate server process + all task processes.
machine_ cpu_ percentage	The current total CPU usage of all the processes running on the machine.

> - *The return value -1 means N/A.*
> - *Parameters related to Disk, Memory, Qlik CPU, and Machine CPU usage are not available for Compose servers. For Compose servers, these parameters will be returned as -1.*
> - *Parameters related to Qlik CPU and Machine CPU usage are only available for Replicate 6.2 and above. For earlier Replicate versions, these parameters will be returned as -1.*
> - *For servers that are in an error state or not monitored, parameters related to Disk and Memory usage will be returned as -1.*

cURL example

Request:

```
curl -i -k --header "EnterpriseManager.APISessionID: wCo0_KvjEUFROvfHF5KGrw"
https://computer.network.net/attunityenterprisemanager/api/v1/
servers/myrepsrv1
```

Response:

```
Headers:
HTTP/1.1 200 OK
Cache-Control: no-cache, no-store
Content-Length: 1658
Content-Type: application/json; charset=utf-8
Server: Microsoft-HTTPAPI/2.0
Date: Mon, 26 Dec 2016 13:18:27 GMT
Payload:
{
"serverDetails":{
        "$type": "ReplicateServerDetails",
        "name":"myrepsrv1",
```

```
     "description":"My daily replication tasks",
     "configuration":{
            "host":"computer.network.net",
            "platform":"WINDOWS",
            "port":"443",
            "username":"Administrator"
      },
     "state":"MONITORED",
     "message": "",
     "version": "5.2.0.156",
     "license":{
            "issue_date":"2016-12-31",
            "state":"LICENSE_VALID",
            "expiration":"2017-12-31",
            "days_to_expiration":"30"
       },
     "last_connection":"2016-12-18T02:23:30",
     "task_summary":{
            "total":50,
            "running":20,
            "stopped":10,
            "recovering":12,
            "error":8
     },
     "resource_utilization":{
            "disk_usage_mb":500,
            "memory_mb":112832,
            "attunity_cpu_percentage":30,
            "machine_cpu_percentage":50
     },
 }
```

Error response

Error responses

HTTP Code	Enterprise Manager Code	Text	Description
500	AEM_SERVER_ NOT_FOUND	Replicate server {server} could not be found.	Server name unknown to Qlik Enterprise Manager.
403	See *Error handling (page 19)*.	-	-
440	See *Error handling (page 19)*.	-	-

2.9   PutServer

General

URL

https://[host]/attunityenterprisemanager/api/v1/servers/[server]/def

Description

Adds a new Replicate/Compose Server or updates the server definition (Connection Properties) if the specified server already exists.

This method can be used together with `GetServer` in order to update the connection properties of an existing server. First call `GetServer`, then edit the returned properties as required, and finally, call `PutServer`.

HTTP method

PUT

Required user role

See .

Request parameters

Request parameters

Location	Name	Required	Example
URL	`Host` [string]	Yes	computer.network.net
URL	ServerName [string]	Yes	myrepsrv1
Header	EnterpriseManager.APISessionID [string]	Yes	wCo0_KvjEUFROvfHF5KGrw

Request body

```
{

"$type": "{string}",
"name": "{string}",
"description": "{string}",
"host": "{string}",
"port": "{string}",
"username": "{string}",
"password": "{string}",
"verify_server_certificate": {bool},
"monitored": {bool}
}
```

Request Parameters

Request parameters

Name	Description
$type	The server's type: Can either be `AemReplicateServer` or `AemComposeServer`.
name	The name of the server. For details of what constitutes a valid server name, see *AEM_INVALID_NAME (page 36)*.
description	The description of the server. For details of what constitutes a valid description, see *AEM_INVALID_DESC (page 35)*
host	The host name or IP address of the server. For details of what constitutes a valid host name, see *AEM_INVALID_HOST (page 35)*
port	The port through which the server is accessed.
username	The user name to connect to the server. The specified user must be a server administrator. For details of what constitutes a valid user name, see *AEM_INVALID_USERNAME (page 35)*.
password	The password to connect to the server. *Within a session, the password identifier (GUID) that is returned by `GetServer` can be used in this request to indicate that the password should remain unchanged.* *The password identifier returned by `GetServer` must be used in the same session, otherwise an error will occur.*

Name	Description
verify_server_certificate	Set to **true** to ensure the Server certificate is trusted. As a rule, to reduce the chance of "man-in-the-middle" attacks, this option should always be set to **true**. • When connecting directly to an Qlik Replicate replication server (default port 3552) with its automatically generated self-signed certificate, Qlik Enterprise Manager is able to validate the certificate without requiring any additional setup. • When connecting to a Replicate Server via the Replicate UI Server (typically using port 443) or to the Replicate replication server with a user-installed certificate, you must make sure that the SSL/TLS certificate used by the server is trusted by the Qlik Enterprise Manager machine. The same applies when connecting to a Compose Server with a user-installed certificate. You can easily verify whether the certificate is trusted by opening a Chrome browser window on the Qlik Enterprise Manager machine and connecting to Replicate. If there are no security warnings, the certificate is trusted. For information on the different ways of connecting to Qlik Replicate, see Qlik Replicate Server Requirements in the Qlik Enterprise Manager Help.
monitored	Whether to retrieve tasks and messages from this server or not. The default is **true**.

cURL example

Request

```
curl -i -k -X PUT --header "EnterpriseManager.APISessionID: wCoO_KvjEUFROvfHF5KGrw" --header
"Content-Length: 242"
https://computer.network.net/attunityenterprisemanager/api/v1/servers/myrepsrv1/def -T
"C:\myrepsrv1.json"
```

Request body

(content of "C:\myrepsrv1.json")

```
{
"$type":"AemReplicateServer",
"name":"myrepsrv1",
"description":"replicate for business",
"host":"rep2018r2gs7.qa.int",
"port":"443",
"username":"administrator",
"password":"pass123",
"verify_server_certificate":true,
"monitored":true
}
```

Response

```
Headers:
HTTP/1.1 200 OK

Cache-Control: no-cache, no-store
```

```
Content-Length: 38

Content-Type: application/json; charset=utf-8

Server: Microsoft-HTTPAPI/2.0

Date: Mon, 26 Dec 2016 13:18:27 GMT
```

Error Response

All of the general errors as well as the errors listed in the table below.

Error responses

HTTP Code	Enterprise Manager Code	Text	Description
500	DESERIALIZE_ TO_TYPE	"Failed to deserialize json to type Server: {message}"	Returned when the JSON format is invalid format. For example, such an error will be returned if the JSON contains an unknown role.
500	AEM_PUT_ SERVER_ INNER_ERR	Failed to put server "{server}". Error: "{message}".	Returned if Qlik Enterprise Manager encounters an error/exception when trying to PUT the server.
500	AEM_INVALID_ SERVER_TYPE	Server type {ServerType} for server "{ServerName}" is not valid.	Returned when an invalid server type is specified.
500	AEM_NAME_ URL_MISMATCH	The name of the server in the request does not match the one that is specified in the URL.	Returned when the name of the server in the request does not match the one that is specified in the URL.
500	AEM_EMPTY_ HOST	The host is missing from the request.	Returned when the host is missing from the request.

HTTP Code	Enterprise Manager Code	Text	Description
500	AEM_EMPTY_PORT	The port is missing from the request.	Returned when the port is missing from the request.
500	AEM_EMPTY_USERNAME	The username is missing from the request.	Returned when the user name is missing from the request.
500	AEM_EMPTY_PASSWORD	The password is missing from the request.	Returned when the password is missing from the request.
500	AEM_INVALID_PORT	The port is invalid.	Returned when the specified port is not valid.
500	AEM_INVALID_USERNAME	The user name is invalid. User names cannot exceed 104 characters and can contain all Unicode characters except for the following characters: Forward slash (/), Left square bracket ([), Right square bracket (]), Colon (:), Semicolon (;), Vertical bar (|), Equal sign (=), Plus sign (+), Asterisk (*), Question mark (?), Left angle bracket (<), Right angle bracket (>), Double quote (\").	Returned when the specified user name is not valid.
500	AEM_INVALID_DESC	The description is invalid. Descriptions cannot exceed 250 characters.	Returned when the description exceeds 250 characters.
500	AEM_INVALID_HOST	The host is invalid. Hosts cannot exceed 64 characters and can only contain letters (a-z or A-Z), digits, spaces, dots (.), dashes (-), and underscores (_).	Returned when the server host name exceeds 64 characters or contains invalid characters.

HTTP Code	Enterprise Manager Code	Text	Description
500	AEM_INVALID_ NAME	The name of the server is invalid. Server names cannot exceed 64 characters and can only contain letters (a-z or A-Z), digits, spaces, dots (.), dashes (-), and underscores (_).	Returned when the server name exceeds 64 characters or contains invalid characters.
500	AEM_HOST_ PORT_ ALREADY_EXIST	Host {name/IP} and port {number} are already in use by another server.	Returned when both the server host name/IP address and the server port are already in use by another server.
500	-	-	-

2.10   PutServerAcl

General

URL

https://[host]/attunityenterprisemanager/api/v1/servers/[server]?action=acl

Description

Puts an explicit ACL for a specific server in Qlik Enterprise Manager.

The method will replace any existing explicit ACL with the ACL in the request.

The request also includes a Boolean flag for specifying if the server should inherit ACLs from its ancestors (in addition to its explicitly defined ACLs) or not.

The inherited ACLs (that is, the ACLs of the server's ancestors) are not affected by this method.

The `PutServerAcl` can be used together with the `GetServerAcl` method in order to update an existing server's ACL. First call `GetServerAcl`, then edit the returned roles as required, and finally, call `PutServerAcl`.

Behavior when putting a partial request

When the request body includes only some of the roles (as opposed to all four of them), only the roles specifically defined in the request body will be set on the server; roles that are missing or empty will be inherited, but only if the following are true:

- The `disable_inheritance` flag is set to "True".
- The roles that are missing/empty in the request are defined for the ancestors.

Behavior on conflicts

If the `disable_inheritance` flag is set to "False" and the explicit roles in the request conflict with existing inherited roles, then the explicit roles will take precedence. For example, if the request defines user A as a Viewer on **MyServer** and user A is also defined as an Admin on All Servers, then user A will be defined as an Admin on All Servers but as a Viewer on **MyServer**.

> *The user permissions in Enterprise Manager are completely independent of the user permissions in Replicate. Consequently, `PutServerAcl` will affect the server's Enterprise Manager user permissions, but will not affect Replicate's user permissions.*
>
> *Moreover, when performing an operation via Enterprise Manager, the user permissions defined for the server entity in Enterprise Manager apply, whereas when performing an operation directly via the Replicate Console, the user permissions defined in Replicate apply.*

> *Defining the same user/group in different roles is not allowed. However, if the same user or group is defined in different roles but with a different case (for example, Mike vs. mike or Analysts vs. ANALYSTS), no error will be returned and the strongest role will take precedence.*

HTTP method

PUT

Required user role

See *Required Enterprise Manager permissions (page 291)*.

Request parameters

Request parameters

Location	Name	Required	Example
URL	`Host` [string]	Yes	computer.network.net
URL	ServerName [string]	Yes	myrepsrv1
Header	EnterpriseManager.APISessionID [string]	Yes	wCo0_KvjEUFROvfHF5KGrw

Request body

```
{

"admin_role":       {

"users": [  { "name": "{string}"}, { "name": "{string}"}, … ],

"groups": [  { "name": "{string}"}, { "name": "{string}"}, … ]

},
```

```
"designer_role": {

"users": [  { "name": "{string}"}, { "name": "{string}"}, … ],

"groups": [  { "name": "{string}"}, { "name": "{string}"}, … ]

},

"operator_role": {

"users": [  { "name": "{string}"}, { "name": "{string}"}, … ],

"groups": [  { "name": "{string}"}, { "name": "{string}"}, … ]

},

"viewer_role": {

"users": [  { "name": "{string}"}, { "name": "{string}"}, … ],

"groups": [  { "name": "{string}"}, { "name": "{string}"}, … ]

},

"disable_inheritance": "{bool}"

}
```

Request parameters

- **admin_role**
    - **users**: An array of users assigned as Admins on the server.
        - **name**: A single Admin user.
    - **groups**: An array of groups assigned as Admins on the server.
        - **name**: A single Admin group.
- **designer_role**
    - **users**: An array of users assigned as Designers on the server.
        - **name**: A single Designer user.
    - **groups**: An array of groups assigned as Designers on the server.
        - **name**: A single Designer group.
- **operator_role**
    - **users**: An array of users assigned as Operators on the server.
        - **name**: A single Operator user.
    - **groups**: An array of groups assigned as Operators on the server.
        - **name**: A single Operator group.
- **viewer_role**
    - **users**: An array of users assigned as Viewers on the server.
        - **name**: A single Viewer user.
    - **groups**: An array of groups assigned as Viewers on the server.
        - **name**: A single Viewer group.

- **disable_inheritance**: If set to "true", the server does not inherit ACLs from its ancestors (in addition to its explicit ACLs). If set to "false", the server inherits ACLs from its ancestors, in addition to any explicit ACLs.

Response parameters

Name	A	B	Description
admin_role	-	-	-
-	users	-	An array of users assigned as Admins on the server.
-	-	name	A single Admin user.
-	groups	-	An array of groups assigned as Admins on the server.
-	-	name	A single Admin group.
designer_role	-	-	-
-	users	-	An array of users assigned as Designers on the server.
-	-	name	A single Designer user.
-	groups	-	An array of groups assigned as Designers on the server.
-	-	name	A single Designer group.
operator_role	-	-	-
-	users	-	An array of users assigned as Operators on the server.
-	-	name	A single Operator user.
-	groups	-	An array of groups assigned as Operators on the server.
-	-	name	A single Operator group.
viewer_role	-	-	-
-	users	-	An array of users assigned as Viewers on the server.
-	-	name	A single Viewer user.
-	groups	-	An array of groups assigned as Viewers on the server.
-	-	name	A single Viewer group.
disable_inheritance	-	-	If set to "true", the server does not inherit ACLs from its ancestors (in addition to its explicit ACLs). If set to "false", the server inherits ACLs from its ancestors, in addition to any explicit ACLs.

cURL example

Request

```
curl -i -k -X PUT --header "EnterpriseManager.APISessionID: wCoO_KvjEUFROvfHF5KGr" --header
"Content-Length: 638" https://computer.network.net/attunityenterprisemanager/
api/v1/servers/myrepsrv1?action=acl" -T "C:\myrepsrv1Acl.json"
```

Request body

(defined in myrepsrv1Acl.json)

```
{
"admin_role": {
"users": [
{"name": "QLIK\\Paul.Clarke"},
{"name": "QLIK\\testAuth1"}
],

"groups": [
{"name": "QLIK\\AttunityEnterpriseManagerAdmins"}
]
},
"designer_role": {
"users": [
{"name": "QLIK\\Marisa.Lewis"},
{"name": "QLIK\\testAuth2"}
],
"groups": [
{"name": "QLIK\\AttunityEnterpriseManagerDesigners"}
]
},
"operator_role": {
"users": [
{"name": "QLIK\\David.Foster"},
{"name": "QLIK\\testAuth3"}
],
"groups": [
{"name": "QLIK\\AttunityEnterpriseManagerOperators"}
]
},
"viewer_role": {
"users": [
{"name": "QLIK\\Laura.Todd"},
{"name": "QLIK\\testAuth4"}
],
"groups": [
{"name": "QLIK\\AttunityEnterpriseManagerViewers"}
]
},
"disable_inheritance": true

}
```

Response

```
Header:

HTTP/1.1 200 OK
Cache-Control: no-cache, no-store
Content-Length: 38
Content-Type: application/json; charset=utf-8
Server: Microsoft-HTTPAPI/2.0
Date: Mon, 26 Dec 2016 16:31:01 GMT
```

Error response

All of the general errors as well as the errors listed in the table below.

Error responses

HTTP Code	Enterprise Manager Code	Text	Description
500	DESERIALIZE_TO_TYPE	"Failed to deserialize json to type AemAuthorizationAcl: {message}"	Returned when the JSON format is invalid format. For example, such an error will be returned if the JSON contains an unknown role.
500	AEM_PUT_SERVER_ACL_INNER_ERR	Failed to put ACL of server "{server}". Error: "{message}".	Returned if Qlik Enterprise Manager encounters an error/exception when trying to put the server's ACL.
500	AEM_NO_DOMAIN_IN_USER	User "{userName}" must be preceded by a domain name, separated by a backslash. **Example:** domain_name\user_name.	Returned when the domain is missing from the user name.
500	AEM_NO_DOMAIN_IN_GROUP	Group "{groupName}" must be preceded by a domain name, separated by a backslash. **Example:** domain_name\group_name.	Returned when the domain is missing from the group name.
500	AEM_NO_ADMIN_ON_SERVER	Requested server "{serverName}" has no admin user. At least one user or group must be assigned to the "admin" role.	Returned when there is no admin on the server. Possible reasons: • The request JSON is set to `disable_inheritance=true` and the explicit admin role in the JSON is empty. • The JSON is set to `disable_inheritance =true`, the explicit admin role in the JSON is empty, and the parent levels do not have an admin user to inherit.

HTTP Code	Enterprise Manager Code	Text	Description
500	AEM_USER_ ASSIGNED_TO_ MULTIPLE_ ROLES	User "{userName}" is assigned to multiple roles. Users can only be assigned to a single role.	Returned when a user is assigned to multiple roles.
500	AEM_GROUP_ ASSIGNED_TO_ MULTIPLE_ ROLES	Group "{groupName}" is assigned to multiple roles. Groups can only be assigned to a single role.	Returned when a group is assigned to multiple roles.
500	AEM_USER_ GROUP_ MULTIPLE_ ASSIGNED	"{userName/groupName}" is assigned to multiple roles or to the same role twice. Users/groups can only be assigned once, and to a single role.	Returned either when the specified user already exists as a group in the same/another role, or the specified group already exists as a user in the same/another role.

2.11   GetServer

General

URL

https://[host]/attunityenterprisemanager/api/v1/servers/[server]/def

Description

Retrieves the definition (Connection Properties) of the specified server.

This method can be used together with `PutServer` in order to update the connection properties of an existing server. First call `GetServer`, then edit the returned properties as required, and finally, call `PutServer`.

HTTP method

GET

Required user role

See .

Request parameters

Request parameters

Location	Name	Required	Example
URL	`Host ` [string]	Yes	computer.network.net

Location	Name	Required	Example
URL	ServerName [string]	Yes	myrepsrv1
Header	EnterpriseManager.APISessionID [string]	Yes	wCo0_KvjEUFROvfHF5KGrw

Response body

```
{

"$type": "{string}",
"name": "{string}",
"description": "{string}",
"host": "{string}",
"port": "{string}",
"username": "{string}",
"password": "{string}",
"verify_server_certificate": "{bool}",
"monitored": "{bool}"
}
```

Response parameters

Response parameters

Name	Description
$type	The server's type. Can either be `AemReplicateServer` or `AemComposeServer`.
name	The name of the server.
description	The description of the server.
host	The host name or IP address of the server.
port	The port through which the server is accessed.
username	The user name to connect to the Replicate/Compose Server.
password	The password to connect to the Replicate/Compose Server. *The password identifier (GUID) that is returned by `GetServer` is valid only for the session in which it was generated.* *Using it in another session (for example as input for `PutServer`) will result in exception.*
verify_ server_ certificate	When "true", Qlik Enterprise Manager verifies that the Server certificate is trusted, thereby reducing the chance of "man-in-the-middle" attacks. For details on setting this option, see *PutServer (page 31)*.
monitored	Whether to retrieve tasks and messages from this server or not.

cURL example

Request

```
curl -i -k --header "EnterpriseManager.APISessionID: wCo0_KvjEUFROvfHF5KGr"
https://computer.network.net/attunityenterprisemanager/
api/v1/servers/myrepsrv1/def
```

Response

```
Headers:
HTTP/1.1 200 OK

Cache-Control: no-cache, no-store

Content-Length: 224

Content-Type: application/json; charset=utf-8

Server: Microsoft-HTTPAPI/2.0

Date: Mon, 26 Dec 2016 13:18:27 GMT
```

Payload

```
{
"$type":"AemReplicateServer",
"name":"myrepsrv1",
"description":"replicate for business",
"host":"rep2018r2gs7.qa.int",
"port":"443",
"username":"administrator",
"password":"{S:98bdfd05-d16e-4afb-ad24-256c4dc6aae9}",
"verify_server_certificate":"true",
"monitored":"true"
}
```

Error response

All of the general errors as well as the following error:

Error responses

HTTP Code	Enterprise Manager Code	Text	Description
500	AEM_GET_ SERVER_ INNER_ERR	Failed to get server " {server}". Error: " {message}".	Returned if Qlik Enterprise Manager encounters an error/exception when trying to get the server details.

2.12   GetServerAcl

General

URL

https://[host]/attunityenterprisemanager/api/v1/servers/[server]?action=acl

Description

Retrieves the explicit ACL defined in Qlik Enterprise Manager for the specified server, including a Boolean indication if ACL inheritance is disabled or enabled for the server.

The method returns the explicit ACL only. In other words, it does not return inherited ACLs.

If all of the servers ACLs are inherited (that is, no ACL was explicitly defined for the server), an error will be returned indicating that no ACL was found.

This method can be used together with `PutServerAcl` in order to update an existing server's ACL. First call `GetServerAcl`, then edit the returned roles as required, and finally, call `PutServerAcl`.

HTTP method

GET

Required user role

See *Required Enterprise Manager permissions (page 291)*.

Request parameters

Request parameters

Location	Name	Required	Example
URL	`Host` [string]	Yes	computer.network.net
URL	ServerName [string]	Yes	myrepsrv1
Header	EnterpriseManager.APISessionID [string]	Yes	wCo0_KvjEUFROvfHF5KGrw

Response body

```
{

"admin_role": {
"users": [ { "name": "{string}"}, { "name": "{string}"}, … ],
"groups": [ { "name": "{string}"}, { "name": "{string}"}, … ]
},
"designer_role": {
"users": [ { "name": "{string}"}, { "name": "{string}"}, … ],
"groups": [ { "name": "{string}"}, { "name": "{string}"}, … ]
},
"operator_role": {
"users": [ { "name": "{string}"}, { "name": "{string}"}, … ],
"groups": [ { "name": "{string}"}, { "name": "{string}"}, … ]
},
```

```
"viewer_role": {
"users": [ { "name": "{string}"}, { "name": "{string}"}, … ],
"groups": [ { "name": "{string}"}, { "name": "{string}"}, … ]
},
"disable_inheritance": "{bool}"
}
```

Response parameters

- **admin_role**
    - **users**: An array of users assigned as Admins on the server.
        - **name**: A single Admin user.
    - **groups**: An array of groups assigned as Admins on the server.
        - **name**: A single Admin group.
- **designer_role**
    - **users**: An array of users assigned as Designers on the server.
        - **name**: A single Designer user.
    - **groups**: An array of groups assigned as Designers on the server.
        - **name**: A single Designer group.
- **operator_role**
    - **users**: An array of users assigned as Operators on the server.
        - **name**: A single Operator user.
    - **groups**: An array of groups assigned as Operators on the server.
        - **name**: A single Operator group.
- **viewer_role**
    - **users**: An array of users assigned as Viewers on the server.
        - **name**: A single Viewer user.
    - **groups**: An array of groups assigned as Viewers on the server.
        - **name**: A single Viewer group.
- **disable_inheritance**: If set to "true", the server does not inherit ACLs from its ancestors (in addition to its explicit ACLs). If set to "false", the server inherits ACLs from its ancestors, in addition to any explicit ACLs.

Response parameters

Name	A	B	Description
admin_role	-	-	-
-	users	-	An array of users assigned as Admins on the server.
-	-	name	A single Admin user.
-	groups	-	An array of groups assigned as Admins on the server.
-	-	name	A single Admin group.

Name	A	B	Description
designer_ role	-	-	-
-	users	-	An array of users assigned as Designers on the server.
-	-	name	A single Designer user.
-	groups	-	An array of groups assigned as Designers on the server.
-	-	name	A single Designer group.
operator_role	-	-	-
-	users	-	An array of users assigned as Operators on the server.
-	-	name	A single Operator user.
-	groups	-	An array of groups assigned as Operators on the server.
-	-	name	A single Operator group.
viewer_role	-	-	-
-	users	-	An array of users assigned as Viewers on the server.
-	-	name	A single Viewer user.
-	groups	-	An array of groups assigned as Viewers on the server.
-	-	name	A single Viewer group.
disable_ inheritance	-	-	If set to "true", the server does not inherit ACLs from its ancestors (in addition to its explicit ACLs). If set to "false", the server inherits ACLs from its ancestors, in addition to any explicit ACLs.

cURL example

Request

```
curl -i -k --header "EnterpriseManager.APISessionID: wCo0_KvjEUFROvfHF5KGr"
https://computer.network.net/attunityenterprisemanager/
api/v1/servers/myrepsrv1?action=acl"
```

Response

```
Headers:
HTTP/1.1 200 OK

Cache-Control: no-cache, no-store

Content-Length: 502

Content-Type: application/json; charset=utf-8

Server: Microsoft-HTTPAPI/2.0

Date: Mon, 26 Dec 2016 13:18:27 GMT
```

Payload

```
{
"admin_role": {
"users": [
{"name": "QLIK\\Paul.Clarke"},
{"name": "QLIK\\testAuth1"}
],
"groups": [
{"name": "QLIK\\AttunityEnterpriseManagerAdmins"}
]
},
"designer_role": {
"users": [
{"name": "QLIK\\Marisa.Lewis"},
{"name": "QLIK\\testAuth2"}
],
"groups": [
{"name": "QLIK\\AttunityEnterpriseManagerDesigners"}
]
},
operator_role": {
"users": [
{"name": "QLIK\\David.Foster"},
{"name": "QLIK\\testAuth3"}
],
"groups": [
{"name": "QLIK\\AttunityEnterpriseManagerOperators"}
]
},
"viewer_role": {
"users": [
{"name": "QLIK\\Laura.Todd"},
{"name": "QLIK\\testAuth4"}
],
"groups": [
{"name": "QLIK\\AttunityEnterpriseManagerViewers"}
]
},
"disable_inheritance": true

}
```

Error response

All of the general errors as well as the errors listed in the table below.

Error responses

HTTP Code	Enterprise Manager Code	Text	Description
500	AEM_GET_ SERVER_ ACL_INNER_ ERR	Failed to get ACL of server " {server}". Error: " {message}".	Returned if Qlik Enterprise Manager encounters an error/exception when trying to get the server ACL.
500	AEM_ SERVER_ HAS_NO_ACL	ACL for server " {server}" could not be found.	Returned if no explicit ACL is defined for the server. *A server that does not have its own explicit ACL inherits the ACL from its ancestors. Inherited ACLs are not returned by this method.*

2.13   GetServerList

General

URL

https://[host]/attunityenterprisemanager/api/v1/servers

Description

Retrieves a list of servers under Qlik Enterprise Manager management as well as each server's properties.

HTTP method

GET

Required user role

See *Required Enterprise Manager permissions (page 291)*.

Request parameters

Request parameters

Location	Name	Required	Example
URL	host [string]	Yes	computer.network.net
Header	EnterpriseManager.APISessionID [string]	Yes	wCo0_KvjEUFROvfHF5KGrw

Response body

```
{
"serverList": [{
```

```
"$type": "{string}",
"name": "{string}",
"description": "{string}",
"host": "{string}",
"port": "{string}",
"state": "{enum_server_state}",
"message": "{string}",
"platform": "{enum_server_platform}",
"version": "{string}",
"last_connection":"{string}"
}, …
]
}
```

Response parameters

Response parameters

Name	Description
$type	The server's type, which can either be `ReplicateServerInfo` or `ComposeServerInfo`.
name	The name of the server.
description	The description of the server.
host	The host name or IP address of the server.
port	The port through which the server is accessed.
state	The current state of the server.
message	The error message if Qlik Enterprise Manager fails to connect and monitor the server.
platform	The operating system on which the server is installed.
version	The version of the server.
last_connection	The date and time of the last successful sync/retrieval of tasks and messages.

cURL example

Request

```
curl -i -k --header "EnterpriseManager.APISessionID: wCoO_KvjEUFROvfHF5KGr"
https://computer.network.net/attunityenterprisemanager/
api/v1/servers
```

Response

```
Headers:
HTTP/1.1 200 OK

Cache-Control: no-cache, no-store

Content-Length: 1658

Content-Type: application/json; charset=utf-8

Server: Microsoft-HTTPAPI/2.0
```

Date: Mon, 26 Dec 2016 13:18:27 GMT

Payload

```
{
"serverList": [{
"$type": "ReplicateServerInfo",
"name": "RepBS",
"description": "replicate for business",
"host": "rep2008r2gs7.qa.int",
"port": "443",
"state": "MONITORED",
"message": "",
"platform": "WINDOWS",
"version": "5.2.0.156",
"last_connection": "2016-12-18T02:23:30",
}, {
"$type": "ReplicateServerInfo",
"name": "RepDev",
"description": "replicate for developers",
"host": "rep2008r2gs8.qa.int",
"port": "443",
"state": "NOT_MONITORED",
"message": "Server changed status to Not Monitored.",
"platform": "WINDOWS",
"version": "5.2.0.156",
"last_connection": "2016-11-16T05:30:00",
}, {
"$type": "ReplicateServerInfo",
"name": "RepProd",
"description": "replicate for production",
"host": "rep2008r2gs9.qa.int",
"port": "443",
"state": "ERROR",
"message": "REPLICATE-E-REPSRVNFND, Replicate server 'Rep 5003' not found. Last Connection:
12:21 PM",
"platform": "WINDOWS",
"version": "5.2.0.156",
"last_connection": "2016-11-16T05:30:00",
}
]
}
```

2.14   DeleteServer

General

URL

https://[host]/attunityenterprisemanager/api/v1/servers/[server]/def

Description

When this method is called, Qlik Enterprise Manager will:

- Delete the specified server from Qlik Enterprise Manager
- Stop monitoring any tasks that were defined on the server
- Delete all messages related to the server from the Message Center
- Delete all user roles defined for the server, the server tasks, and the server endpoints

> *The above operations will be performed, regardless of whether the server is currently being monitored or in an error state.*

HTTP method

DELETE

Required user role

See *Required Enterprise Manager permissions (page 291)*.

Request parameters

Request parameters

Location	Name	Required	Example
URL	`host` [string]	Yes	computer.network.net
URL	`ServerName` [string]	Yes	myrepsrv1
Header	EnterpriseManager.APISessionID [string]	Yes	wCo0_KvjEUFROvfHF5KGrw

cURL example

Request

```
curl -i -k -X DELETE --header "EnterpriseManager.APISessionID: wCo0_KvjEUFROvfHF5KGrw" --
header "Content-Length: 0"
https://computer.network.net/attunityenterprisemanager/api/v1/servers/myrepsrv1/def
```

Response

```
Header:
        HTTP/1.1 200 OK
        Cache-Control: no-cache, no-store
        Content-Length: 38
        Content-Type: application/json; charset=utf-8
        Server: Microsoft-HTTPAPI/2.0
        Date: Mon, 26 Dec 2016 16:31:01 GMT
```

Error response

All of the general errors as well as the errors listed in the table below.

Error responses

HTTP Code	Enterprise Manager Code	Text	Description
500	AEM_SERVER_ NOT_FOUND	Requested server " {server}" could not be found.	The server name is unknown to Qlik Enterprise Manager.
500	AEM_DELETE_ SERVER_INNER_ ERR	Failed to delete requested server " {server}".	Qlik Enterprise Manager encountered an error/exception when trying to delete the server.

2.15 DeleteServerAcl

General

URL

https://[host]/attunityenterprisemanager/api/v1/servers/[server]?action=acl

Description

Deletes the explicit ACL defined in Qlik Enterprise Manager for the specified server.

Inherited ACLs are not affected by this method.

Once the explicit ACL is deleted from the server, all ACLs will be automatically inherited from the server's ancestors.

HTTP method

DELETE

Required user role

See *Required Enterprise Manager permissions (page 291)*.

Request parameters

Request parameters

Location	Name	Required	Example
URL	`Host` [string]	Yes	computer.network.net
URL	ServerName [string]	Yes	myrepsrv1
Header	EnterpriseManager.APISessionID [string]	Yes	wCo0_KvjEUFROvfHF5KGrw

cURL example

Request

```
curl -i -k -X DELETE --header "EnterpriseManager.APISessionID: wCoO_KvjEUFROvfHF5KGr" --header
https://computer.network.net/attunityenterprisemanager/
api/v1/servers/myrepsrv1?action=acl"
```

Response

```
Header:

HTTP/1.1 200 OK
Cache-Control: no-cache, no-store
Content-Length: 38
Content-Type: application/json; charset=utf-8
Server: Microsoft-HTTPAPI/2.0
Date: Mon, 26 Dec 2016 16:31:01 GMT
```

Error response

All of the general errors as well as the errors listed in the table below.

Error responses

HTTP Code	Enterprise Manager Code	Text	Description
500	AEM_DELETE_ SERVER_ACL_ INNER_ERR	Failed to delete ACL of server " {server}". Error: "{message}".	Returned if Qlik Enterprise Manager encounters an error/exception when trying to delete the server's ACL.
500	AEM_SERVER_ HAS_NO_ACL	ACL for server " {server}" could not be found.	Returned when the specified server has no explicit ACL defined.

2.16   GetTaskList

General

URL

https://{host}/attunityenterprisemanager/api/v1/servers/{ServerName}/tasks

Description

Receive a list of tasks per selected and authorized server. For each task, the API returns a few parameters.

Method

GET

Required user role

See *Required Enterprise Manager permissions (page 291)*.

Request parameters

Request parameters

Location	Name	Required	Example
URL	`host` [string]	Yes	computer.network.net
URL	`ServerName` [string]	Yes	myrepsrv1
Header	EnterpriseManager.APISessionID [string]	Yes	wCo0_KvjEUFROvfHF5KGrw

Response body

```
{

"taskList": [{

"name": "{string}",

"state": "{enum task_state}",

"stop_reason": "{enum stop_reason}",

"message": "{string}",
"assigned_tags": ["string", "string", "string", …]
}, {

"name": "{string}",

"state": "{enum task_state}",

"stop_reason": "{enum stop_reason }",

"message": "{string}",

"assigned_tags": ["string", "string", "string", …]
}, {

"name": "{string}",

"state": "{enum task_state}",

"stop_reason": "{enum stop_reason}",

"message": "{string}",

"assigned_tags": ["string", "string", "string", …]

}

]

}
```

Response parameters

Response parameters

Name	Description
name	**Replicate:** - The name of the task. **Compose:** - The name of the task or workflow appended with a double underscore and the project name. **Example:** `mytask__myproject`
state	The current state of the task.
stop_reason	The reason the task has stopped. For Compose tasks, this will always be NONE.
message	The message if the task stopped due to an error.
assigned_ tags	Returns the custom tags assigned to the task. If no tags are assigned to the task, an empty array will be returned.

cURL example

Request

```
curl -i -k --header "EnterpriseManager.APISessionID: wCo0_KvjEUFROvfHF5KGrw"
https://computer.network.net/attunityenterprisemanager/
api/v1/servers/myrepsrv1/tasks
```

Response

> ⓘ *For Compose tasks, the task* `"name"` *response will be in the following format:* `taskName__ projectName`.

```
Headers:

HTTP/1.1 200 OK

Cache-Control: no-cache, no-store

Content-Length: 205

Content-Type: application/json; charset=utf-8

Server: Microsoft-HTTPAPI/2.0

Date: Mon, 26 Dec 2016 11:18:53 GMT
```

Payload
```
{

"taskList": [{

"name": "Task1",
```

```
"state": "RUNNING",

"stop_reason": "NONE",

"message": "NONE",

"assigned_tags": ["MyTag1", "MyTag2", "MyTag3"]

}, {

"name": " Task2",

"state": "STOPPED",

"stop_reason": "FULL_LOAD_ONLY_FINISHED",

"message": "NONE,

"assigned_tags": ["MyTag5"]

}, {

"name": "Task3",

"state": "RUNNING",

"stop_reason": "NONE",

"message": "NONE",

"assigned_tags": []

}

]

}
```

Errors

See general errors.

2.17   GetTaskDetails

General

URL

Enterprise Manager May 2021:

https://`{host}`/attunityenterprisemanager/api/v1/servers/`{ServerName}`/tasks/`{TaskName}`

From Enterprise Manager May 2021 SR1:

Replicate:

https://`{host}`/attunityenterprisemanager/api/v1/servers/`{ServerName}`/tasks/`{TaskName}`

Compose:

https://`{host}`/attunityenterprisemanager/api/v1/servers/`{ServerName}`/tasks/`{TaskName__`
`ProjectName|WorkflowName__ProjectName}`

Description

Retrieves details about a selected and authorized task. The API returns full monitoring information related to the selected task.

HTTP method

GET

Required user role

See *Required Enterprise Manager permissions (page 291)*.

Request parameters

Request parameters

Location	Name	Description	Required	Example
URL	`host` [string]	The Hostname of the Enterprise Manager machine.	Yes	computer.network.net
URL	`ServerName` [string]	The display name of the Replicate or Compose Server defined in Enterprise Manager.	Yes	myserver1

Location	Name	Description	Required	Example

URL	**May 2021:**
	
	`TaskName [string]`
	
	From Enterprise Manager May 2021 SR1:
	
	For Replicate:
	
	`TaskName`
	
	For Compose:
	
	`TaskName__`
	`ProjectName|WorkflowNam`
	`e__ProjectName[string]`
		May 2021:
		
		The name of the Replicate or Compose task.
		
		From Enterprise Manager May 2021 SR1:
		
		The name of the Replicate task or the name of the Compose task or workflow appended with a double underscore and the project name.
		
		Compose task example:
		
		`mytask__`
		`myproject`
			Yes	SalesDBBackup

Header	EnterpriseManager.APISessionID [string]		Yes	wCo0_KvjEUFROvfHF5KGrw

Response body for a Replicate task

```
{

     "type":"{string}",
     "name":"{string}",
     "description":"{string}",
     "state":"{enum task_state}",
     "message": "{string}",
     "source_endpoint":{
          "name":"{string}",
```

```
                    "type":"{string}"
            },
            "target_endpoint":{
                    "name":"{string}",
                    "type":"{string}"
            },
            "cdc_event_counters":{
                    "applied_insert_count":"{int64}",
                    "applied_update_count":"{int64}",
                    "applied_delete_count":"{int64}",
                    "applied_ddl_count":"{int64}"
            },
            "full_load_counters":{
                    "tables_completed_count":"{int64}",
                    "tables_loading_count":"{int64}",
                    "tables_queued_count":"{int64}",
                    "tables_with_error_count":"{int64}",
                    "records_completed_count":"{int64}",
                    "estimated_records_for_all_tables_count":"{int64}"
                    },
            {
            "full_load_completed":"{bool}",
            "full_load_start":"{string}",
            "full_load_end":"{string}",
            },{
            "full_load_throughput":{
                    "source_throughput_records_count":"{int32}",
                    "source_throughput_volume":"{int32}",
                    "target_throughput_records_count":"{int32}",
                    "target_throughput_volume":"{int32}"
                    },{
            "cdc_throughput": {
                    "source_throughput_records_count": {
                    "current": "{int32}"
                    },
                    "source_throughput_volume": {
                    "current": "{int32}"
                    },
                    "target_throughput_records_count": {
                    "current": "{int32}"
                    },
                    "target_throughput_volume": {
                    "current": "{int32}"
                    }
            },{
            "cdc_transactions_counters":{
```

```
                "commit_change_records_count":"{int64",
                "rollback_transaction_count":"{int64}",
                "rollback_change_records_count":"{int64}",
                "rollback_change_volume_mb":"{int64}",
                "applied_transactions_in_progress_count":"{int64}",
                "applied_records_in_progress_count":"{int64}",
                "applied_comitted_transaction_count":"{int64}",
                "applied_records_comitted_count":"{int64}",
                "applied_volume_comitted_mb":"{int64}",
                "incoming_accumulated_changes_in_memory_count":"{int64}",
                "incoming_accumulated_changes_on_disk_count":"{int64}",
                "incoming_applying_changes_in_memory_count":"{int64}",
                "incoming_applying_changes_on_disk_count":"{int64}",
                },{
        "cdc_latency":{
                "source_latency":"{int32}",
                "total_latency":"{int32}",
                },{
        "profile":"{string}",
        "task_stop_reason":"{enum task_stop_reason}",
        "memory_mb":{int64},
        "cpu_percentage":"{int32}",
        "disk_usage_mb":"{int64}",
        "data_error_count":"{int64}",
        "options":"full_load_enabled""":"{bool}","apply_changes_enabled":"
{bool}","store_changes_enabled":"{bool}","audit_changes_enabled":"{bool}"},
        "log_stream_staging":"{string}",
        "assigned_tags": ["string", "string", "string", …]
        }
```

Response parameters for Replicate tasks

General parameters

Name	Description
type	The task type: ReplicateTaskInfoDetailed
name	The name of the task.
description	The task description. If there is no description, an empty string will be returned.
State	The current state of the task.
message	The message returned if the task stopped due to error.

Source endpoint parameters

Name	Description
name	The name of the source endpoint.
type	The source endpoint type.

Target endpoint parameters

Name	Description
name	The name of the target endpoint.
type	The target endpoint type.

cdc_event_counters parameters

Name	Description
applied_insert_count	The number of records added in total for all tables.
applied_update_count	The number of records updated in total for all tables.
applied_delete_count	The number of records deleted in total for all tables.
applied_ddl_count	The total number of metadata changes, such as add column.

full_load_counters parameters

Name	Description
tables_completed_count	The number of tables that have been loaded into the target endpoint.
tables_loading count	The number of tables that are currently being loaded into the target endpoint.
tables_queued_count	The number of tables that are waiting to be loaded due to an error.
tables_with_error_count	The number of tables that could not be loaded due to an error.
records_completed_count	The total number of records that have completed loading into the target endpoint.
estimated_records_for_all_ tables_count	The estimated number of records remaining to be loaded into the target endpoint.
full_load_completed	Indicates whether the full load process has ended.
full_load_start	The start time of the full load process. Format: YYY MM DD Timezone: UTC

full_load_throughput indicates how fast the table records are being replicated to the target endpoint (by number or volume of records).

full_load_throughput parameters

Name	Description
full_load_throughput	Indicates how fast the table records are being replicated to the target endpoint (by number or volume of records).

Name	Description
source_throughput_ records_count	The current source throughput, in rec/sec.
source_throughput_ volume	The current source throughput, in kbyte/sec.
target_throughput_ records_count	The current target throughput, in rec/sec.
target_throughput_ volume	The current target throughput, in kbyte/sec.

cdc_throughput indicates how fast the table records are being replicated to the target endpoint (by number or volume of records). Refers only to the current/last CDC.

<div align="center">

cdc_throughput parameters

</div>

Name	Description
source_throughput_records_count	The current source throughput, in rec/sec.
source_throughput_volume	The current source throughput, in kbyte/sec.
target_throughput_records_count	The current target throughput, in rec/sec.
target_throughput_volume	The current target throughput, in kbyte/sec.

cdc_transaction_counters contains all numeric data concerning CDC transactions.

<div align="center">

cdc_transaction_counters parameters

</div>

Name	Description
commit_change_records_count	The number of COMMIT change records.
rollback_tranaction_count	The number of ROLLBACK transactions.
rollback_change_records_count	The number of ROLLBACK change records.
rollback_change_volume_mb	The volume of ROLLBACK change, in MB.
applied_transactions_in_progress_count	The number of transactions in progress.
applied_records_in_progress_count	The sum of all records/events in all In-Progress transactions.
applied_committed_transaction_count	The number of transactions committed.
applied_records_committed_count	The sum of all records/events in all Completed transactions.
applied_volume_committed_mb	The sum of all volume/events in all Completed transactions, in MB.

Name	Description
incoming_accumulated_changes_in_ memory_count	The number of changes accumulated in memory until source commit.
incoming_accumulated_changes_on_ disk_count	The number of changes accumulated on disk until source commit.
incoming_applying_changes_in_memory_ count	The number of changes in memory during apply and until target commit.
incoming_applying_changes_on_disk_ count	The number of changes on disk during apply and until target commit

<div align="center">

cdc_latency parameters

</div>

Name	Description
source_latency	The time gap between the original change in the source endpoint and capturing it, in hh:mm:ss.
total_latency	The overall latency (source latency + target latency + apply latency), in hh:mm:ss.
profile	See Profile Parameters.
task_stop_reason	The reason the task stopped.
memory_mb	The current utilization of memory, in MB. A task's memory utilization is sampled every 10 seconds. When the task is not running, the value is set to zero (0).
cpu_percentage ⓘ *Only available for Replicate tasks running on Replicate 6.2 and above. When not available, this parameter will be returned as -1.*	The current CPU usage of the Replicate task process.
disk_usage_mb	The current utilization of disk space, in MB. A task's disk utilization is sampled every minute.
data_error_count	The total number of data errors in all tables involved in the task. The count is affected by data errors and the **Reset Data Errors** option available when you drill down to a task.
full_load_enabled	See Task Options.
apply_changes_enabled	See Task Options.

Name	Description
store_changes_enabled	See Task Options.
audit_changes_enabled	See Task Options.
log_stream_staging	If the task is writing to/reading from the Log Stream staging folder, the name of the associated Log Stream Staging task will be returned. Otherwise, an empty string will be returned.
assigned_tags	Returns the custom tags assigned to the task. If no tags are assigned to the task, an empty array will be returned.

Response body for a Compose task

```
{
        "$type": "{string}",
        "project": "{string}",
        "profile": "{string}",
        "loading_completed": "{bool}",
        "loading_start": "{string}",
        "loading_end": "{string}",
        "options": {
                "full_load_enabled": "{bool}",
                "apply_changes_enabled": "{bool}"
        },
        "loading_counters": {
                "tables_total_count": "{int64}",
                "tables_completed_count": "{int64}",
                "tables_loading_count": "{int64}",
                "tables_queued_count": "{int64}",
                "tables_with_error_count": "{int64}",
                "commands_total_count": "{int64}",
                "commands_completed_count": "{int64}"
        },
        "name": "{string}",
        "message": "{string}",
        "state": "{enum task_state}",
        "description": "{string}",
        "source_endpoint": {
                "name": "{string}",
                "type": "{string}"
        },
        "target_endpoint": {
                "name": "{string}"
                "type": "{string}"
        },
```

```
        "assigned_tags": ["string", "string", "string", …]
}
```

Response parameters for Compose tasks

General parameters

Name	Description
type	One of the following: • AemComposeDWTaskInfoDetailed (for Data Warehouse tasks) • AemComposeDMTaskInfoDetailed (for Data Mart tasks) • AemComposeDLTaskInfoDetailed (for Data Lake tasks)
project	The name of the Compose project.
profile	See Profile Parameters.
name	**Enterprise Manager May 2021:** The name of the task. **From Enterprise Manager May 2021 SR1:** The name of the task appended with a double underscore and the project name. **Example:** `mytask__myproject`
description	The task description. If there is no description, an empty string will be returned.
state	The current task state.
message	The message returned if the task stopped due to error.

options:

- full_load_enabled - Indicates whether the Full Load option is enabled. Can be "true" or "false".

- apply_changes_enabled - Indicates whether the Change Processing option is enabled. Can be "true" or "false".

source_endpoint parameters

Name	Description
name	The logical name of the landing database.
type	The landing database type.

target_endpoint parameters

Name	Description
name	The logical name of the storage database.
type	The storage database type.
loading_completed	Indicates whether the loading process has completed. Can be "true" or "false"
loading_start	The start time of the loading process. Format: YYY MM DD Timezone: UTC
loading_end	The end time of the loading process. Format: YYY MM DD Timezone: UTC

loading_counters parameters

Name	Description
tables_total_count	The total number of tables.
tables_completed_count	The number of tables that have been loaded into the target endpoint.
tables_loading count	The number of tables that are currently being loaded into the target endpoint.
tables_queued_count	The number of tables that are waiting to be loaded due to an error.
tables_with_error_count	The number of tables that could not be loaded due to an error.
commands_total_count	The total number of commands executed.
commands_completed_count	The total number of commands completed.
assigned_tags	Returns the custom tags assigned to the task. If no tags are assigned to the task, an empty array will be returned.

cURL example for Replicate tasks

Request

```
curl -i -k --header "EnterpriseManager.APISessionID: {SessionID}" https://
{host}/attunityservices/api/v1/servers/
myrepsrv1/tasks/SalesDBBackup
```

Response

> ℹ️ For Compose tasks, from Enterprise Manager May 2021 SR1, the task *"name"* response will be in the following format: *taskName__projectName*.

```
Headers:

HTTP/1.1 200 OK

Cache-Control: no-cache, no-store

Content-Length: 1658

Content-Type: application/json; charset=utf-8

Server: Microsoft-HTTPAPI/2.0

Date: Mon, 26 Dec 2016 13:18:27 GMT
```

Payload

```
{

"name":"SalesDBBackup",

"description":"Backs up annual sales",

"state":"RUNNING",

"message":"NONE",

"source_endpoint":{

"name":"Customer Management",

"type":"Oracle",

},

"target_endpoint":{

"name":"Business Management",

"type":"Microsoft SQL Server",

},

"cdc_event_counters":

{"applied_insert_count":0,
```

```
"applied_update_count":0,

"applied_delete_count":0,

"applied_ddl_count":0

},{

"full_load_counters":{

"tables_completed_count":3,

"tables_loading_count":0,

"tables_queued_count":0,

"tables_with_error_count":0,

"records_completed_count":177446,

"estimated_records_for_all_tables_count":177446,

"full_load_completed":true,

"full_load_start":"2016-12-18T02:23:30",

"full_load_end":"2016-12-18T02:23:35",

},{

"full_load_throughput":{

"source_throughput_records_count":0,

"source_throughput_volume":0,

"target_throughput_records_count":0,

"target_throughput_volume":0},

},{

"cdc_throughput":{

"source_throughput_records_count": {

"current": 0

},

"source_throughput_volume": {

"current": 0

},

"target_throughput_records_count": {

"current": 0

},

"target_throughput_volume": {
```

```
"current": 0

}

},{

"cdc_transactions_counters":{

"commit_change_records_count":0,

"rollback_transaction_count":0,

"rollback_change_records_count":0,

"rollback_change_volume_mb":0,

"applied_transactions_in_progress_count":0,

"applied_records_in_progress_count":0,

"applied_comitted_transacion_count":0,

"applied_records_comitted_ count":0,

"applied_volume_comitted_mb":0,

"incoming_accumulated_changes_in_memory_count":0,

"incoming_accumulated_changes_on_disk_count":0,

"incoming_applying_changes_in_memory_count":0,

"incoming_applying_changes_on_disk_count":0},

},{

"cdc_latency":{

"source_latency":"00:00:00",

"total_latency":"00:00:00"},

},{

"profile":"UNIDIRECTIONAL",

"task_stop_reason":"NORMAL",

"memory_mb":57,

"cpu_percentage":30,

"disk_usage_mb":0,

"data_error_count":0,

"options":{"full_load_enabled":true,"apply_changes_enabled":true,"store_changes_
enabled":false,"audit_changes_enabled":false}

"log_stream_staging":"MyLogStreamTask",

"assigned_tags": ["MyTag1", "MyTag2", "MyTag3"]
```

```
}
```

Error response

All of the general errors as well as the errors listed in the table below.

Error responses

HTTP Code	Qlik Enterprise Manager Code	Text	Description
500	AEM_TASK_ NOT_FOUND	Replicate task {task} on server {server} could not be found.	The task name is unknown to Enterprise Manager.

2.18   GetTableList

General

URL

https://{host}/attunityenterprisemanager/api/v1/servers/{ServerName}/tasks/{TaskName}/tables?schema= {schema}&table={table}&includequeued={includequeued}&includeloading= {includeloading}&includecompleted={includecompleted}&includechangeprocessing= {includechangeprocessing}&includeerror={includeerror}

Description

Retrieves the list of tables of a specific Replicate task that match the specified state(s), table schema(s), and table name(s). This is useful for automation processes, for example, as it allows you to retrieve tables in a certain state (e.g. suspended) and then peform an operation on them (e.g. `ReloadTable`).

Method

GET

Required user role

See *Required Enterprise Manager permissions (page 291)*.

Request parameters

Request parameters

Location	Name	Required	Description
URL	host [string]	Yes	The host name of the Qlik Enterprise Manager server. **Example:** computer.network.net

Location	Name	Required	Description
URL	ServerName [string]	Yes	The Replicate Server name as defined on Qlik Enterprise Manager. **Example:** myrepsrv1
URL	TaskName [string]	Yes	The name of the Replicate task.
URL	SchemaName [string]	No	The default is all source schemas. Specifying a specific schema name will retrieve all tables from the specified schema. Specifying a pattern will retrieve all tables from schemas that match the pattern. For example, specifying **ad%** will retrieve tables from the **adventure** and **adventuretwo** schemas. *Schema names are case-sensitive.*
URL	TableName [string]	No	The default is all source tables. Specifying a specific table name will retrieve the specified table. Specifying a pattern will retrieve all tables that match the pattern. For example, specifying **em%** will retrieve the **employees** and **employed** tables. *Table names are case-sensitive.*
URL	includequeued [boolean]	No	Whether to retrieve tables in a queued state.
URL	includeloading [boolean]	No	Whether to retrieve tables in a loading state.
URL	includecompleted [boolean]	No	Whether to retrieve tables in a completed state.

Location	Name	Required	Description
URL	includechangeprocessing [boolean]	No	Whether to retrieve tables in a Change Processing state (that is, tables that are having changes applied to them).
URL	includeerror [boolean]	No	Whether to retrieve tables in an error state.
Header	EnterpriseManager.APISessionID [string]	Yes	wCo0_KvjEUFROvfHF5KGrw

Response body

```
{
   "tablelist":[
      {
         "schema":"{string}",
         "table":"{string}",
         "state":"{enum table_state}"
      },
      {
         "schema":"{string}",
         "table":"{string}",
         "state":"{enum table_state}"
      },
      {
         "schema":"{string}",
         "table":"{string}",
         "state":"{enum table_state}"
      },
      {
         "schema":"{string}",
         "table":"{string}",
         "state":"{enum table_state}"
      }
   ]
}
```

Response parameters

Response parameters

Name	Description
schema	The name of the schema.
table	The name of the table.
state	The current state of the table.

cURL example

Request

```
curl -i -k --header "EnterpriseManager.APISessionID: wCoO_KvjEUFROvfHF5KGrw"
https://computer.network.net/attunityenterprisemanager/api/v1/servers/{server}/tasks/
{task}/tables?
```

Response

```
Headers:

HTTP/1.1 200 OK

Cache-Control: no-cache, no-store

Content-Length: 205

Content-Type: application/json; charset=utf-8

Server: Microsoft-HTTPAPI/2.0

Date: Mon, 26 Dec 2016 11:18:53 GMT
```

Payload

```
{
    "tablelist":[
        {
            "schema":"MYSCHEMA",
            "table":"TABLE1",
            "state":"TABLE_CHANGE_PROCESSING"
        },
        {
            "schema":"MYSCHEMA",
            "table":"TABLE2",
            "state":"TABLE_LOADING"
        },
        {
            "schema":"MYSCHEMA",
            "table":"TABLE3",
            "state":"TABLE_QUEUED"
        },
        {
            "schema":"MYSCHEMA",
            "table":"TABLE4",
            "state":"TABLE_QUEUED"
        }
    ]
}
```

Errors

All of the general errors as well as the errors listed in the table below.

Error responses

HTTP Code	Enterprise Manager Code	Text	Description
500	AEM_TABLE_ LIST_INNER_ ERR	Failed to retrieve table list for replication task " {task}" on server "{server}". Error: "{message}"	Returned when the table list cannot be retrieved.
500	AEM_TASK_ NOT_FOUND	Replicate task {task} on server {server} could not be found.	The task name is unknown to Enterprise Manager.

2.19   GetTaskTableSelection

General

URL

https://{host}/attunityenterprisemanager/api/v1/servers/{server}/tasks/{task}/tables?action=selection

Description

Retrieves the list of tables selected for inclusion (either explicitly or using pattern) in a specific Replicate task.

Method

GET

Required user role

See *Required Enterprise Manager permissions (page 291)*.

Request parameters

Request parameters

Location	Name	Required	Description
URL	host [string]	Yes	The host name of the Qlik Enterprise Manager server. **Example:** computer.network.net

Location	Name	Required	Description
URL	Server [string]	Yes	The Replicate Server name as defined on Qlik Enterprise Manager. **Example:** myrepsrv1
URL	Task [string]	Yes	The Replicate task for which the tables were selected.
Header	EnterpriseManager.APISessionID [string]	Yes	wCo0_KvjEUFROvfHF5KGrw

cURL example

Request

```
curl -i -k --header "EnterpriseManager.APISessionID: eEAt8oWp4TtS3KzV7YlDUw"
https://myhostname/attunityenterprisemanager/api/v1/servers/localhost/tasks/sql2sql/tables?act
ion=selection
```

Response

```
HTTP/1.1 200 OK
Cache-Control: no-cache, no-store
Content-Length: 140
Content-Type: application/json; charset=utf-8
Server: Microsoft-HTTPAPI/2.0
Date: Thu, 14 Mar 2024 10:06:10 GMT

{"included_pattern":[],"excluded_pattern":[],"explicit_included_tables":
[{"owner":"dbo","name":"employees","load_order":0,"table_type":"TABLE"}]}
```

Response parameters

Response parameters

Location	Description
included_pattern	The include table pattern defined for the Replicate task.
excluded_pattern	The exclude table pattern defined for the Replicate task.
explicit_included_tables	The specific list of tables and views selected for the Replicate task and the order in which they are loaded to the target.

Errors

All of the general errors as well as the errors listed in the table below.

<p style="text-align:center">Error responses</p>

HTTP Code	Enterprise Manager Code	Text	Description
500	AEM_TABLE_ LIST_INNER_ ERR	Failed to retrieve table list for replication task " {task}" on server "{server}". Error: "{message}"	Returned when the table list cannot be retrieved.
500	AEM_TASK_ NOT_FOUND	Replicate task {task} on server {server} could not be found.	The task name is unknown to Enterprise Manager.

2.20   PutTaskTableSelection

General

URL

https://{host}/attunityenterprisemanager/api/v1/servers/{server}/tasks/{task}/tables?action=selection

Description

Overrides the list of tables selected for inclusion in a specific Replicate task.

Method

PUT

Required user role

See *Required Enterprise Manager permissions (page 291)*.

Request URL parameters

<p style="text-align:center">Request URL parameters</p>

Location	Name	Required	Description
URL	host [string]	Yes	The host name of the Qlik Enterprise Manager server. **Example:** computer.network.net
URL	Server [string]	Yes	The Replicate Server name as defined on Qlik Enterprise Manager. **Example:** myrepsrv1
URL	Task [string]	Yes	The Replicate task for which the tables were selected.
Header	EnterpriseManager.APISessionID [string]	Yes	wCo0_KvjEUFROvfHF5KGrw

Request body parameters

The request body should be in a JSON file in valid JSON format.

Request body parameters

Location	Name	Required	Description
JSON	included_pattern	No	The new include table pattern for the Replicate task. • **owner:** The table schema or owner • **name:** Tables matching this pattern will be included • **load_order:** The order in which the tables will be loaded to the target. "0" means random order. See [Load order](#) for additional numeric values that can be used to define the load order. You can also set the value to `LOWEST`, `LOW`, `NORMAL`, `HIGH`, or `HIGHEST`. • **table_type:** The entity type. Can be view or table.
JSON	excluded_pattern	No	The new exclude table pattern for the Replicate task. • **owner:** The table schema or owner • **name:** Tables matching this pattern will be excluded • **load_order:** The order in which the tables will be loaded to the target. "0" means random order. See [Load order](#) for additional numeric values that can be used to define the load order. You can also set the value to `LOWEST`, `LOW`, `NORMAL`, `HIGH`, or `HIGHEST`. • **table_type:** The entity type. Can be view or table.
JSON	explicit_included_tables	Only if no patterns have been defined.	The specific list of tables and views selected for the Replicate task and the order in which they are loaded to the target. • **owner:** The table schema or owner • **name:** Tables matching this name will be included • **load_order:** The order in which the tables will be loaded to the target. "0" means random order. See [Load order](#) for additional numeric values that can be used to define the load order. You can also set the value to `LOWEST`, `LOW`, `NORMAL`, `HIGH`, or `HIGHEST`. • **table_type:** The entity type. Can be view or table.

Example JSON for overriding patterns and explicitly selected tables

{"included_pattern":[{"owner":"dbo","name":"tbl%","load_order":0,"table_type":"TABLE"}],

"excluded_pattern":[{"owner":"dbo","name":"tbl_xyz%","load_order":0,"table_type":"VIEW"}],

"explicit_included_tables": [

```
{

"owner": "dbo",

"name": "employees",

"load_order": 0,

"table_type": "TABLE"

},

{

"owner": "dbo",

"name": "customers",

"load_order": 0,

"table_type": "TABLE"

}

]
```

cURL example

Request

```
curl -X PUT -i -k --header "EnterpriseManager.APISessionID: eEAt8oWp4TtS3KzV7YlDUw"
https://myemhost/attunityenterprisemanager/api/v1/servers/localhost/tasks/sql2sql_fl_
test/tables?action=selection -T "c:\putselection.json"
```

Errors

All of the general errors as well as the errors listed in the table below.

Error responses

HTTP Code	Enterprise Manager Code	Text	Description
500	AEM_TASK_ NOT_FOUND	Replicate task {task} on server {server} could not be found.	The task name is unknown to Enterprise Manager.

2.21 GetTableStatuses

General

URL

https://{host}/attunityenterprisemanager/api/v1/servers/{server}/tasks/
{task}/tables?action=getstatus&schema={schema}&table={table}&includequeued=
{includequeued}&includeloading={includeloading}&includecompleted=
{includecompleted}&includechangeprocessing={includechangeprocessing}&includeerror={includeerror}

Description

Retrieves the tables states of a specific Replicate task for all source tables that match the specified states, table schemas, and table names. This is useful for automation processes, for example, as it allows you to retrieve tables in a certain state (for example, suspended) and then perform an operation on them (for example, ReloadTable).

Method

GET

Required user role

See *Required Enterprise Manager permissions (page 291)*.

Request parameters

Request parameters

Location	Name	Required	Description
Header	EnterpriseManager.APISessionID [string]	Yes	wCo0_KvjEUFROvfHF5KGrw
URL	host [string]	Yes	The host name of the Qlik Enterprise Manager server. **Example:** computer.network.net
URL	server [string]	Yes	The Replicate Server name as defined on Qlik Enterprise Manager. **Example:** myrepsrv1
URL	task [string]	Yes	The Replicate task name.

Location	Name	Required	Description
URL	schema [string]	No	The default is all source schemas. Specifying a specific schema name will retrieve all tables from the specified schema. Specifying a pattern will retrieve all tables from schemas that match the pattern. For example, specifying **ad%** will retrieve tables from the **adventure** and **adventuretwo** schemas. *Schema names are case-sensitive.*
URL	table [string]	No	The default is all source tables. Specifying a specific table name will retrieve the specified table. Specifying a pattern will retrieve all tables that match the pattern. For example, specifying **em%** will retrieve the **employees** and **employed** tables.Table names are case-sensitive.
URL	action=getstatus	Yes	The actual function to execute.
URL	includequeued [boolean]	No	Whether to retrieve tables in a queued state.
URL	includeloading [boolean]	No	Whether to retrieve tables in a loading state.
URL	includecompleted [boolean]	No	Whether to retrieve tables in a completed state.
URL	includechangeprocessing [boolean]	No	Whether to retrieve tables in a Change Processing state (that is, tables that are having changes applied to them).
URL	includeerror [boolean]	No	Whether to retrieve tables in an error state.

> ⚠ *While it is possible to set a table state parameter to "false", doing so will have no effect. Therefore, if you are only interested in specific states, set the desired states to "true" rather than setting the unwanted states to "false". For example, setting includecompleted=false and includechangeprocessing=false will not work as expected (all table states will be returned). However, setting includeloading=true, includeerror=true, and includequeued=true will return the desired states. Additionally, omitting the state parameters is the same as setting all parameters to "true" so if you want to see all states, simply omit the parameters.*

Response body

```
{
    "table_details":[

      {
          "schema_on_source":"{string}",
          "table_on_source":"{string}",
          "schema_on_target":"{string}",
          "table_on_target":"{string}",
          "state":"{enum}",
          "data_errors_count":"{int64}",
          "table_full_load_info":{
             "start_time":"{string}",
             "end_time":"{string}",
             "estimated_row_count":"{int64}",
             "estimated_end_time":"{string}",
             "transferred_row_count":"{int64}",
             "transferred_volume_mb":"{int64}"
          },
          "table_cdc_info":{
             "insert_count":"{int64}",
             "update_count":"{int64}",
             "delete_count":"{int64}",
             "ddl_count":"{int64}",
             "last_update_time":"{string}",
             "cached_insert_count":"{int64}",
             "cached_update_count":"{int64}",
             "cached_delete_count":"{int64}"
          }
      }
   ]
}
```

Response parameters

Response parameters

Name	Description
schema_on_ source	Source schema name.
table_on_source	Source table name.
schema_on_ target	Target schema name. If this information is not available, an empty string will be returned.
table_on_target	Target table name. If this information is not available, an empty string will be returned.
state	An enum reflecting the table state. See *state (page 287)*.
data_errors_ count	The number of data errors encountered when replicating the table.
table_full_load_ info	-
start_time	Date-time of when the table full load started. Timezone: UTC ; Style: ISO8601 (consistent with GetTaskDetails).
end_time	Date-time of when the table full load started. Timezone: UTC ; Style: ISO8601 (consistent with GetTaskDetails).
estimated_row_ count	Relevant only for tables in certain states (loading/queued).
estimated_end_ time	Relevant only for tables in certain states (loading/queued). Timezone: UTC ; Style: ISO8601 (consistent with GetTaskDetails). *estimated_end_time is always null. You can calculate the approximate end time using the following formula:* `estimated_end_time = start_time + estimated_row_count * (CurrentTime - start_time)/transferred_row_count`
transferred_row_ count	The number of rows transferred to the target, after the source filtering, but before the target filtering.
transferred_ volume_mb	The amount of bytes transferred to the target, after the source filtering, but before the target filtering.
End of table_ full_load_info	-

Name	Description
table_cdc_info	-
insert_count	The number of records inserted to the target table.
update_count	The number of records updated in the target table.
delete_count	The number of records deleted in the target table.
ddl_count	The number of DDL operations performed on the target table.
last_update_time	The last time that the table was updated on target. Timezone: UTC ; Style: ISO8601 (consistent with GetTaskDetails).
cached_insert_ count	INSERT operations that were cached during Full Load.
cached_update_ count	UPDATE operations that were cached during Full Load.
cached_delete_ count	DELETE operations that were cached during Full Load.
End of table_ cdc_info	-

cURL example

Request

```
curl -i -k --header "EnterpriseManager.APISessionID: wCoO_KvjEUFROvfHF5KGrw"
https://computer.network.net/attunityenterprisemanager/api/v1/servers/{server}/tasks/
{task}/tables?action=getstatus
```

Response

```
Headers:

HTTP/1.1 200 OK

Cache-Control: no-cache, no-store

Content-Length: 205

Content-Type: application/json; charset=utf-8

Server: Microsoft-HTTPAPI/2.0

Date: Mon, 26 Dec 2016 11:18:53 GMT
```

Payload

```
{
   "table_details":[
      {
         "schema_on_source":"myschema1",
```

```
      "table_on_source":"mytable1",
      "schema_on_target":"",
      "table_on_target":"",
      "state":"TABLE_CHANGE_PROCESSING",
      "data_errors_count":0,
      "table_full_load_info":{
         "start_time":"2019-08-05T01:35:06",
         "end_time":"2019-08-05T01:35:06",
         "estimated_row_count":0,
         "estimated_end_time":null,
         "transferred_row_count":4,
         "transferred_volume_mb":1856
      },
      "table_cdc_info":{
         "insert_count":2,
         "update_count":0,
         "delete_count":0,
         "ddl_count":0,
         "last_update_time":null,
         "cached_insert_count":0,
         "cached_update_count":0,
         "cached_delete_count":0
      }
   },
   {
      "schema_on_source":"myschema2",
      "table_on_source":"mytable2",
      "schema_on_target":"",
      "table_on_target":"",
      "state":"TABLE_CHANGE_PROCESSING",
      "data_errors_count":0,
      "table_full_load_info":{
         "start_time":"2019-08-05T01:35:06",
         "end_time":"2019-08-05T01:35:31",
         "estimated_row_count":0,
         "estimated_end_time":null,
         "transferred_row_count":1000000,
         "transferred_volume_mb":464000000
      },
      "table_cdc_info":{
         "insert_count":0,
         "update_count":4,
         "delete_count":0,
         "ddl_count":0,
         "last_update_time":null,
         "cached_insert_count":0,
```

```
        "cached_update_count":0,
        "cached_delete_count":0


    }
  }
 ]
}
```

Errors

All of the general errors as well as the errors listed in the table below.

Error responses

HTTP Code	Qlik Enterprise Manager Code	Text	Description
500	AEM_SERVER_ NOT_FOUND	Replicate server {server} could not be found.	Server name unknown to Qlik Enterprise Manager.
500	AEM_TASK_ NOT_FOUND	Replicate task {task} on server {server} could not be found.	The task name is unknown to Enterprise Manager.
500	AEM_TABLE_ STATUSES_ INNER_ERR	Failed to retrieve table statuses for replication task "{task}" on server " {server}". Error: "{message}"	Returned when the table statuses cannot be retrieved.

2.22   DeleteTask

General

URL

https[host]/attunityenterprisemanager/api/v1/servers/[server]/tasks/[task]?action=delete&deletetasklogs= [deletetasklogs]

Description

Deletes the specified task. The task's logs will be deleted only if `deletetasklogs=true` is specified in the URL.

HTTP method

POST

Required user role

See *Required Enterprise Manager permissions (page 291)*.

Request parameters

Request parameters

Location	Name	Required	Example
URL	`host` [string]	Yes	computer.network.net
URL	`ServerName` [string]	Yes	myrepsrv1
URL	`TaskName` [string]	Yes	SalesDBBackup
URL	`deletetasklogs` [bool]	Optional (default is false)	deletetasklogs=true
Header	EnterpriseManager.APISessionID [string]	Yes	wCo0_ KvjEUFROvfHF5KGrw
Header	Content-Length:	Yes	"Content-Length: 0" Note: The specified value must be "0".

cURL example

Request

```
curl -i -k -X POST --header "EnterpriseManager.APISessionID: wCo0_KvjEUFROvfHF5KGrw" --header
"Content-Length: 0"
https:// computer.network.net/attunityenterprisemanager/api/v1/
servers/myrepsrv1/tasks/ SalesDBBackup?action=delete&deletetasklogs=true
```

Response

```
Header:

HTTP/1.1 200 OK

Cache-Control: no-cache, no-store

Content-Length: 38

Content-Type: application/json; charset=utf-8

Server: Microsoft-HTTPAPI/2.0

Date: Mon, 26 Dec 2016 16:31:01 GMT
```

Error response

Error responses

HTTP Code	Enterprise Manager Code	Text	Description
500	AEM_TASK_ NOT_FOUND	Replication task {task} on server {server} could not be found.	Returned if the task name is unknown to Qlik Enterprise Manager.
500	AEM_ DELETE_ TASK_ INNER_ERR	Replication task {task} on server {server} could not be deleted due to an error.	Returned if Enterprise Manager encounters an error/exception when trying to delete the task.
500	AEM_ DELETE_ TASK_ERR	Replication task {task} on server {server} could not be deleted due to an error. {2}	Returned if Enterprise Manager encounters an error when trying to delete the task.
500	AEM_TASK_ NOT_ STOPPED	Replication task {task} on server {server} must be stopped before it can be deleted.	Returned if the replication task was running when `DeleteTask` attempted to delete it.

2.23   ExportTask

General

URL

https://`{Host}`/attunityenterprisemanager/api/v1/servers/`{ServerName}`/tasks/ `{TaskName}`?action=export&withendpoints=`{withendpoints}`

Description

Export definitions from the selected task on the selected server. The definitions always include task settings, tables/table patterns (include/exclude), table settings and global transformations. The endpoint definition is exported with the task definition.

Supported only from Replicate 5.2 and later.

HTTP method

GET

Required user role

See *Required Enterprise Manager permissions (page 291)*.

Request parameters

<table>
<tr><td colspan="5" align="center">Request parameters</td></tr>
<tr><th>Location</th><th>Name</th><th>Required</th><th>Example</th></tr>
<tr><td>URL</td><td>`Host` [string]</td><td>Yes</td><td>computer.network.net</td></tr>
<tr><td>URL</td><td>`ServerName` [string]</td><td>Yes</td><td>myrepsrv1</td></tr>
<tr><td>URL</td><td>`TaskName` [string]</td><td>Yes</td><td>SalesDBBackup</td></tr>
<tr><td>URL</td><td>`withendpoints` [bool]</td><td>No</td><td>true/false</td></tr>
<tr><td>Header</td><td>EnterpriseManager.APISessionID [string]</td><td>Yes</td><td>wCo0_KvjEUFROvfHF5KGrw</td></tr>
</table>

Response

JSON File (stream)

cURL example

Request

```
curl -i -k --header "EnterpriseManager.APISessionID: wCo0_KvjEUFROvfHF5KGrw"
https://computer.network.net/attunityenterprisemanager/api/v1/servers/
myrepsrv1/tasks/SalesDBBackup?action=export
```

Response

JSON file (stream)

Error response

<table>
<tr><td colspan="4" align="center">Error responses</td></tr>
<tr><th>HTTP Code</th><th>Enterprise Manager Code</th><th>Text</th><th>Description</th></tr>
<tr><td>500</td><td>-</td><td>ExportTask is only supported on Replicate 5.2 or above.</td><td>-</td></tr>
<tr><td>500</td><td>AEM_EXPORT_ TASK_NO_ PERMISSION_ ON_ENDPOINT</td><td>Failed to export task {task} from Replicate server {server} as the logged in user does not have permission to access one or both of the task's endpoints.</td><td>Export all cannot be carried out because the user does not have permissions on one or more endpoints.</td></tr>
</table>

2.24   ImportTask

General

URL

https://{Host}/attunityenterprisemanager/api/v1/servers/{ServerName}/tasks/{task}?action=import

Description

Import a single task's JSON definitions provided in the request body into the requested server repository on the selected server.

The ImportTask method enables importing all valid JSON definitions provided in the request body. This includes task settings, tables/table patterns (include/exclude), table settings and global transformations. Information about endpoints is included if it was included in the JSON file.

When you import a task, Items that existed in the target server before the import and have no new JSON definition in the request body are not modified and not removed. This means that ImportTask provides no way of removing old definitions that are no longer needed.

HTTP method

POST

Required user role

See *Required Enterprise Manager permissions (page 291)*.

Request parameters

Request parameters

Location	Name	Required	Example
URL	`Host` [string]	Yes	computer.network.net
URL	`ServerName` [string]	Yes	myrepsrv1
URL	`TaskName` [string]	Yes	SalesDBBackup
Header	EnterpriseManager.APISessionID [string]	Yes	wCo0_ KvjEUFROvfHF5KGrw
Header	Content-Length: This is the number of bytes in the content body. Note that the number of bytes that you specify must be exactly the same as the number of bytes in the JSON file. This number can be ascertained by copy-pasting the text into a text editor such as **Notepad ++** (which shows the number of bytes as "Length" at the bottom of its console).	Yes	"Content-Length: 3986"
Body	A JSON document to import [stream]	Yes	localServer1.json

Response

JSON File

cURL example

cURL Example

```
curl -i -k -X POST --header "EnterpriseManager.APISessionID: wCo0_KvjEUFROvfHF5KGrw " --header
"Content-Length: 3986" --header "Content-Type: application/json" "
https://computer.network.net/attunityenterprisemanager/api/v1/servers/
myrepsrv1/tasks/SalesDBBackup?action=import" -T "C:\exports\ SalesDBBackup.json"
```

Response

```
HTTP/1.1 100 Continue

HTTP/1.1 200 OK

Cache-Control: no-cache, no-store

Content-Length: 0

Content-Type: application/json; charset=utf-8

Server: Microsoft-HTTPAPI/2.0

Date: Tue, 28 Feb 2017 17:45:41 GMT
```

Error response

Error responses

HTTP Code	Enterprise Manager Code	Text	Description
500	AEM_IMPORT_ TASK_NO_ PERMISSION_ ON_ENDPOINT	Failed to import task {task} to replication server {server} as the logged in user does not have permission to add or modify endpoints.	The task cannot be imported because it includes endpoint definitions, and the user does not have permissions to insert endpoints.
500	AEM_IMPORT_ TASK_ CONTAIN_ ALIEN_ITEMS	Failed to import task {task} to replication server {server} as the JSON file contains unsupported objects.	The task cannot be imported because the stream contains items that cannot be imported (such as remote machines).
500	AEM_IMPORT_ TASK_NAME_ DIFFER	Failed to import task {task} to replication server {server} as the JSON file contains conflicting tasks.	The task cannot be imported because the stream contains conflicting tasks.
500	AEM_IMPORT_ TASK_ CONTAINS_ MULTIPLE_ TASKS	Failed to import task to replication server {server} as the JSON file contains multiple tasks. To import multiple tasks, use ImportAll instead.	The task cannot be imported since the stream contains multiple tasks, and the method can only import a single task.

HTTP Code	Enterprise Manager Code	Text	Description
500	AEM_TASK_ NOT_ IMPORTABLE	Failed to import task {task} as the task is running on server {server}. Stop the task and then try again.	Occurs when trying to import a running task.
500	AEM_IMPORT_ TASK_ CONTENT_ EMPTY	Failed to import task {task} to replication server {server} as the JSON file is empty.	The task cannot be imported as the specified JSON file is empty.
500	AEM_IMPORT_ TASK_ ENDPOINT_ DIFFER	Failed to import task {task} to server {server} as the endpoint names in the JSON file's "task" and "databases" sections are not the same.	The task cannot be imported as the endpoint names in the specified JSON file's "task" and "databases" sections are different.
500	AEM_IMPORT_ TASK_NO_ ENDPOINT_IN_ SERVER	Failed to import task {task} to replication server {server} as the {role} endpoint {endpoint} does not exist on the target server.	The task cannot be imported as one of the endpoints specified in the exported JSON file does not exist on the target server.
500	AEM_IMPORT_ TASK_CANNOT_ OVERRIDE_ TASK	Replicate (server '{0}') import unable to delete task. Error message '{2}	The task cannot be imported since the task that it was supposed to override cannot be deleted.

2.25   CloneTask

General

URL

https://{Host}/attunityenterprisemanager/api/v1/servers/{ServerName}/tasks/{TaskName}?action=clone

Description

Clones the definitions of the specified task on the specified server. The definitions include the task settings, tables/table patterns (include/exclude), table settings, and global transformations. The endpoint definitions are cloned with the task definition.

> - *You cannot override an existing task with the same name*
> - *The task being cloned must have a source and target endpoint*

HTTP method

POST

Required user role

Operator or above on Qlik Enterprise Manager.

Request parameters

Request parameters

Location	Name	Required	Description
URL	Host [string]	Yes	The host name of the Qlik Enterprise Manager server. **Example:** computer.network.net
URL	ServerName [string]	Yes	The Replicate Server name as defined in Qlik Enterprise Manager. **Example:** myrepsrv1
URL	TaskName [string]	Yes	The name of the Replicate task to clone.
Header	EnterpriseManager.APISessionID [string]	Yes	wCo0_ KvjEUFROvfHF5KGrw
Header	Content-Length: This is the number of bytes in the content body. Note that the number of bytes that you specify must be exactly the same as the number of bytes in the JSON file. This number can be ascertained by copy-pasting the text into a text editor such as **Notepad ++** (which shows the number of bytes as "Length" at the bottom of its console).	Yes	"Content-Length: 3986"
Body (JSON file)	clone_permissions	No	Stipulates whether to clone the task permissions. The value can be true of false. The default is false, meaning that if this parameter is omitted, the permissions will not be cloned.
Body (JSON file)	new_task_name	Yes	The new name of the task after it has been cloned.

Location	Name	Required	Description
Body (JSON file)	new_source_endpoint	No	The display name of the source endpoint. The display name must already exist on the Replicate Server. *The display name must be of an endpoint of the same type used in the task being cloned. For example, if the source endpoint in the task being cloned is of type Oracle, you cannot specify MyNewSource if it is the display name of a Microsoft SQL Server endpoint.*

Location	Name	Required	Description
Body (JSON file)	new_target_endpoint	No	The display name of the target endpoint. The display name must already exist on the Replicate Server. *The display name must be of an endpoint of the same type used in the task being cloned. For example, if the target endpoint in the task being cloned is of type Oracle, you cannot specify MyNewTarget if it is the display name of a Microsoft SQL Server endpoint.*
Body (JSON file)	new_control_schema	No	The new name of the schema in which to create the control tables.
Body (JSON file)	new_target_schema	No	The new name of the schema in which to create the target tables.
Body (JSON file)	new_control_table_tablespace	No	The new name of the tablespace in which to create the control tables. *Relevant when replicating to an Oracle target only.*

Location	Name	Required	Description
Body (JSON file)	new_control_index_tablespace	No	The new name of the tablespace in which to create the control table indexes. *Relevant when replicating to an Oracle target only.*

cURL example

Request

```
curl -i -k --header "EnterpriseManager.APISessionID: wCoO_KvjEUFROvfHF5KGrw"
https://computer.network.net/attunityenterprisemanager/api/v1/servers/
myrepsrv1/tasks/SalesDBBackup?action=clone

{
        "clone_permissions":true,
        "new_task_name":"BusinessData",
        "new_source_endpoint":"MyOracle",
        "new_target_endpoint":"MySQLServer",
        "new_control_schema":"TaskControlSchema",
        "new_target_schema":"TaskTargetSchema",
        "new_control_table_tablespace":"TaskTableSpace",
        "new_control_index_tablespace":"TaskIndexTableSpace"
}
```

2.26   ExportAuditTrail

General

URL

https://{Host}/attunityenterprisemanager/api/v1/security/audit_trail

Description

Export audit trail data from all servers.

Supported only from Replicate November 2020.

HTTP method

GET

Required user role

See *Required Enterprise Manager permissions (page 291)*.

Request parameters

Request parameters

Location	Name	Required	Example
URL	`Host` [string]	Yes	computer.network.net
URL	`start_timestamp` [UTC format or Ticks]	Yes	2020-06-30T16:15:00Z (UTC format) 637410358250082194 (Ticks)
URL	`end_timestamp` [UTC format or Ticks]	No	2020-06-30T16:15:00Z (UTC format) 637410358250082194 (Ticks) Default : latest audit trail record

Response

JSON File (stream)

cURL example

Request

```
curl -i -k --header "EnterpriseManager.APISessionID: wCoO_KvjEUFROvfHF5KGrw"
https://computer.network.net/attunityenterprisemanager/api/v1/security/audit_trail?start_
timestamp={start_timestamp}&end_timestamp={end_timestamp}
```

Response

JSON file (stream)

Error response

Error responses

HTTP	Error	Message	Description
500	AEM_INVALID_ TIMESTAMP_ FORMAT	Timestamp is not a timestamp. Timestamp format should be 'yyyy'-'MM'-'dd'T'HH':'mm':'ss'Z or Ticks.	Timestamp is not valid.
500	AEM_EXPORT_ INNER_ERR	Failed to export audit trail. AUDIT-E-INVRANGE. The end time is before the start time.	Time range is not valid.

HTTP	Error	Message	Description
401	UNAUTHORIZED_ REQUEST	Unauthorized Request. request: AemExportAuditTrail	User does not have permission to access the audit trail information.

2.27   RunTask

General

Replicate URL

https://{host}/attunityenterprisemanager/api/v1/servers/{ServerName}/tasks/ {TaskName}?action=run&option={option}&timeout={timeout}

Compose URL

https://{host}/attunityenterprisemanager/api/v1/servers/{ServerName}/tasks/ {TaskName}?action=run&timeout={timeout}

Description

Run the selected task according to the specified option.

HTTP method

POST

Required user role

See *Required Enterprise Manager permissions (page 291)*.

Request parameters

Request parameters

Location	Name	Required	Description/Example
URL	host [string]	Yes	computer.network.net
URL	ServerName [string]	Yes	myrepsrv1

Location	Name	Required	Description/Example

URL	`TaskName` [string]	Yes	**Replicate:** - The name of the task. **Compose:** - The name of the task or workflow appended with a double underscore and the project name. **Example:**
			
			`mytask__`
			`myproject`

URL	option [enum run_options]	For Replicate tasks, all options are supported. For Compose tasks, specify `option=RESUME_ PROCESSING` to run the task.	RELOAD_TARGET
URL	`Timeout` [int32]	Optional (default is 60 seconds)	60 (seconds)
Header	EnterpriseManager.APISessionID [string]	Yes	wCo0_ KvjEUFROvfHF5KGrw

Location	Name	Required	Description/Example
Header	Content-Type: [Type]	Yes if the run option = RESUME_ PROCESSING_ FROM_TIMESTAMP, RESUME_ PROCESSING_ FROM_POSITION, or RECOVER_USING_ CHECKPOINT_ STORED_ON_ TARGET	"Content-Type: application/json" You can either specify the `Content-Type` payload inline or by referencing a JSON file. The payload format differs slightly according to whether it is specified inline or by referencing a JSON file. For more information, see Body below.
Header	Content-Length: This is the number of bytes in the content body. Note that the number of bytes that you specify must be exactly the same as the number of bytes in the JSON file. This number can be ascertained by copy-pasting the text into a text editor such as **Notepad ++** (which shows the number of bytes as "Length" at the bottom of its console).	Yes if the option = RESUME_ PROCESSING_ FROM_TIMESTAMP, RESUME_ PROCESSING_ FROM_POSITION, or RECOVER_USING_ CHECKPOINT_ STORED_ON_ TARGET	"Content-Length: 37" For example commands, see *Resume processing from timestamp cURL examples for Replicate tasks (page 103)*.
Body	`cdcposition`	Yes	The `cdcposition` parameter can either be specified inline or in an external JSON file. The format for both is described in *Request body format (page 100)* below.

Request body format

RESUME_PROCESSING_FROM_TIMESTAMP

If the task option is RESUME_PROCESSING_FROM_TIMESTAMP, then the format should be:

JSON File Format:

```
{"cdcposition":"timestamp"}
```

Example:

```
{"cdcposition":"2017-03-07T11:19:03"}
```

Inline Format:

```
"{\"cdcposition\":\"timestamp\"}"
```

Example:

```
"{\"cdcposition\":\"2017-03-07T11:19:03\"}"
```

For example commands, see cURL Resume Processing from Timestamp Examples.

RESUME_PROCESSING_FROM_POSITION

f the task option is RESUME_PROCESSING_FROM_POSITION then, assuming the source database is SQL Server, the format should be:

JSON File Format:

```
{"cdcposition":"LSN"}
```

Example:

```
{"cdcposition":"15000000040000037"}
```

Inline Format:

```
"{\"cdcposition\":\"LSN\"}"
```

Example:

```
"{\"cdcposition\":\"15000000040000037\"}"
```

For example commands, see cURL Resume Processing from Timestamp Examples.

RECOVER_USING_CHECKPOINT_STORED_ON_TARGET

If the task option is RECOVER_USING_CHECKPOINT_STORED_ON_TARGET, then the format should be:

JSON File Format:

```
{"cdcposition":"target_checkpoint"}
```

Example:

```
{"cdcposition":"Checkpoint:V1#1#timestamp:2017-02-14T12:34:44#0#0#*#0#0"}
```

Inline Format:

```
"{\"cdcposition\":\"target_checkpoint\"}"
```

Example:

```
"{\"cdcposition\":\"Checkpoint:V1#1#timestamp:2017-02-14T12:34:44#0#0#*#0#0\"}"
```

Response body

```
{
"state":"{enum task_state}",
"error_message":""
}
```

Response parameters

Response parameters

Name	Description
state {enum task_state]	The current state of the task.
error_message	The description of the error.

Reload target cURL example for Replicate tasks

cURL

```
curl -i -k -X POST --header "EnterpriseManager.APISessionID: wCo0_KvjEUFROvfHF5KGrw" --header
"Content-Length: 0" https://
computer.network.net/attunityenterprisemanager/api/
v1/servers/myrepsrv1/tasks/SalesDBBackup?action=run&option=RELOAD_TARGET
```

Response

```
Headers:

HTTP/1.1 200 OK

Cache-Control: no-cache, no-store

Content-Length: 38

Content-Type: application/json; charset=utf-8

Server: Microsoft-HTTPAPI/2.0

Date: Mon, 26 Dec 2016 16:28:25 GMT
```

Payload

```
{
"state":"RUNNING",
```

```
"error_message":""

}
```

Resume processing from timestamp cURL examples for Replicate tasks

cURL - When the payload content is in a JSON file

```
curl -i -k -X POST --header "EnterpriseManager.APISessionID: wCo0_KvjEUFROvfHF5KGrw" --header
"Content-Type: application/json" -T @"C:\exports\resumefromtimestamp.json" --header "Content-
Length: 37" https://
computer.network.net/attunityenterprisemanager/api/
v1/servers/rep2022r2gs7.qa.int/tasks/SalesDBBackup?action=run&option=RESUME_PROCESSING_FROM_
TIMESTAMP"
```

cURL - When the payload content is inline

```
curl -i -k -X POST --header "EnterpriseManager.APISessionID: wCo0_KvjEUFROvfHF5KGrw" --header
"Content-Type: application/json" -d "{\"cdcposition\":\"2017-03-07T11:19:03\"}" "https://
computer.network.net/attunityenterprisemanager/api/
v1/servers/rep2022r2gs7.qa.int/tasks/SalesDBBackup?action=run&option=RESUME_PROCESSING_FROM_
TIMESTAMP"
```

Response

```
Headers:
HTTP/1.1 200 OK
Cache-Control: no-cache, no-store
Content-Length: 38
Content-Type: application/json; charset=utf-8
Server: Microsoft-HTTPAPI/2.0
Date: Tue, 07 Mar 2022 16:57:27 GMT
```

Payload

```
{"state":"RUNNING","error_message":""}
{"error_code":"INVALID_SESSION_ID","error_message":"Session expired or invalid"}
```

Resume processing from position cURL examples for Replicate tasks

cURL - When the payload content is in a JSON file

```
curl -i -k -X POST --header "EnterpriseManager.APISessionID: wCo0_KvjEUFROvfHF5KGrw" --header
"Content-Type: application/json" -T @"C:\exports\resumefrompositon.json" --header "Content-
Length: 37" https://
computer.network.net/attunityenterprisemanager/api/
v1/servers/rep2022r2gs7.qa.int/tasks/SalesDBBackup?action=run&option=RESUME_PROCESSING_FROM_
POSITION"
```

cURL - When the payload content is inline

```
curl -i -k -X POST --header "EnterpriseManager.APISessionID: wCo0_KvjEUFROvfHF5KGrw" --header
"Content-Type: application/json" -d "{\"cdcposition\":\"15000000040000037\"}" "https://
```

```
computer.network.net/attunityenterprisemanager/api/
v1/servers/rep2022r2gs7.qa.int/tasks/SalesDBBackup?action=run&option=RESUME_PROCESSING_FROM_
POSITION"
```

Response

```
Headers:
HTTP/1.1 200 OK
Cache-Control: no-cache, no-store
Content-Length: 38
Content-Type: application/json; charset=utf-8
Server: Microsoft-HTTPAPI/2.0
Date: Tue, 07 Mar 2022 16:57:27 GMT
```

Payload

```
{"state":"RUNNING","error_message":""}
{"error_code":"INVALID_SESSION_ID","error_message":"Session expired or invalid"}
```

Error response

Error responses

HTTP Code	Enterprise Manager Code	Text	Description
500	AEM_TASK_ ALREADY_ RUNNING	Replicate task {task} on server {server} is already running.	The task cannot be run because it is already running.
500	AEM_TASK_IN_ RECOVERY	Replicate task {task} on server {server} cannot be run as it is in a recovery state.	The task cannot be run because it is in Recovery state.
500	AEM_WRONG_ OPTION_FOR_ CDCPOSITION	Replicate task {task] on server {server} cannot be run with cdcposition {position} and option {option}. Change the option to RESUME_PROCESSING_FROM_ TIMESTAMP, RESUME_PROCESSING_ FROM_POSITION, or RECOVER_USING_ CHECKPOINT_STORED_ON_TARGET	This error is returned when the specified option conflicts with the setting in the **Advanced Run Options** dialog in Replicate.
500	AEM_CDC_ POSITION_ERR_ FORMAT	The cdcposition parameter value for Replicate task {task} on server {server} is not in the correct format ('YYYY-MM-DDThh:mm:ssZ').	The cdcPosition parameter must follow this format: YYYY-MM-DDThh:mm:ssZ Parameters: task name and server name.

HTTP Code	Enterprise Manager Code	Text	Description
500	AEM_RUN_ TASK_TIMEOUT	Replicate task {task} on server {server} timed out when requested to "Run".	The task does not assume a Running state or any other steady state (error o stopped).
500	AEM_RUN_ TASK_INNER_ ERR	Replicate task {task} on server {server} encountered an error when requested to run.	Replicate experienced an error/exception when trying to run the task.
500	AEM_RUN_ TASK_NO_SRC_ NO_TRG	Replicate task {task} on server {server} has no source or target endpoints.	Task validation revealed that the task is missing a source and a target.
500	AEM_RUN_ TASK_NO_SRC	Replicate task {task} on server {server} has no source endpoint.	Task validation revealed that the task is missing a source.
500	AEM_RUN_ TASK_TRG	Replicate task {task} on server {server} has no target endpoint.	Task validation revealed that the task is missing a target.
500	AEM_RUN_ TASK_NOT_FL_ NOR_CDC	Replicate task {task} on server {server} cannot be run without at least one of the replication options enabled (Full Load, Apply Changes, or Store Changes).	Task validation of a unidirectional task revealed that the replication option definition for the task is missing (Full Load, Apply Changes, or Store Changes).
500	AEM_RUN_BIDI_ TASK_NO_FL_ NOR_CDC	Replicate task {task} on server {server} cannot be run without at least one of the replication options enabled (Full Load or Apply Changes).	Task validation of a unidirectional task revealed that the replication option definition for the task is missing (Full Load, Apply Changes, or Store Changes).

2.28 StopTask

General

URL

https://{host}/attunityenterprisemanager/api/v1/servers/{ServerName}/tasks/
{TaskName}?action=stop&timeout={timeout}

Description

Stop the selected task.

HTTP method

POST

Required user role

See *Required Enterprise Manager permissions (page 291)*.

Request parameters

Request parameters

Location	Name	Required	Description/Example
URL	`host` [string]	Yes	computer.network.net
URL	`ServerName` [string]	Yes	myrepsrv1
URL	`TaskName` [string]	Yes	• **Replicate:** - The name of the task. • **Compose:** - The name of the task or workflow appended with a double underscore and the project name. **Example:** `mytask__myproject`
URL	`Timeout` [int32]	Optional (default is 60 seconds)	60 (seconds)
Header	EnterpriseManager.APISessionID [string]	Yes	wCo0_KvjEUFROvfHF5KGrw
Header	Content-Length	Yes	Content-Length: 0 Note that the Content-Length value must be "0".

Response body

```
{

"state":"{enum task_state}",

"error_message":""

}
```

Response parameters

Response parameters

Name	Description
state [enum task_state]	The current state of the task.
error_message	The description of the error.

cURL example

Request

```
curl -i -k -X POST --header "EnterpriseManager.APISessionID: wCoO_KvjEUFROvfHF5KGrw" --header
"Content-Length: 0" https:// computer.network.net/attunityenterprisemanager/api/
v1/servers/myrepsrv1/tasks/SalesDBBackup/
?action=stop
```

Response

```
Header:

HTTP/1.1 200 OK

Cache-Control: no-cache, no-store

Content-Length: 38

Content-Type: application/json; charset=utf-8

Server: Microsoft-HTTPAPI/2.0

Date: Mon, 26 Dec 2016 16:31:01 GMT
```

Payload

```
{

"state":"STOPPED",

"error_message":""

}
```

Error response

Error responses

HTTP Code	Enterprise Manager Code	Text	Description
500	AEM_TASK_ ALREADY_ STOPPED	Replicate task {task} on server {server} is already stopped.	Cannot stop a task that is in Stopped state.
500	AEM_STOP_ TASK_INNER_ERR	Failed to stop Replicate task {0} on server {1}: <{2}>	An error occurred while trying to stop the task.
500	AEM_STOP_ TASK_TIMEOUT	A timeout occurred when trying to stop Replicate task {0} on server {1}	A timeout occurred while trying to stop the task.

2.29   GetEndpointList

General

URL

https://[host]/attunityenterprisemanager/api/v1/servers/[server]/endpoints

Description

Retrieves a list of endpoints and their properties for the specified server.

Method

GET

Required user role

See *Required Enterprise Manager permissions (page 291)*.

Request parameters

Request parameters

Location	Name	Required	Example
URL	`host` [string]	Yes	computer.network.net
URL	`ServerName` [string]	Yes	myrepsrv1
Header	EnterpriseManager.APISessionID [string]	Yes	wCo0_KvjEUFROvfHF5KGrw

Response body

```
{

"endpointList": [{

"name": "{string}",
```

```
"description": "{string}",

"role": "{enum endpoint_role}",

"type": "{string}",

"is_licensed": "{bool}"

},...

]

}
```

Response parameters

Response parameters

Name	Description
name	The endpoint name.
description	The endpoint description.
role	The endpoint role: SOURCE or TARGET
type	The endpoint type - for example, Oracle.
is_licensed	Indicates whether the endpoint is licensed on this server.

cURL example

Request

```
curl -i -k --header "EnterpriseManager.APISessionID: wCoO_KvjEUFROvfHF5KGrw"
https://computer.network.net/attunityenterprisemanager/
api/v1/servers/myrepsrv1/endpoints
```

Response

```
Headers:

HTTP/1.1 200 OK

Cache-Control: no-cache, no-store

Content-Length: 205

Content-Type: application/json; charset=utf-8

Server: Microsoft-HTTPAPI/2.0

Date: Mon, 26 Dec 2016 11:18:53 GMT
```

Payload

```
{

"endpointList": [{

"name": "Shopping",
```

```
"description": "Customers and purchases",

"role": "SOURCE"

"type": "ORACLE"

"is_licensed": true

}, {

"name": "Management",

"description": "Managers and Employees",

"role": "SOURCE"

"type": "ORACLE"

"is_licensed": true

}, {

"name": "Business Management",

"description": "Shopping + Management",

"role": "TARGET"

"type": "HADOOP"

"is_licensed": true

}

]

}
```

Error response

Error responses

HTTP Code	Enterprise Manager Code	Text	Description
500	AEM_ ENDPOINT_ LIST_INNER_ ERR	Failed to retrieve endpoints list from Replicate server {name}.	Replicate experienced an error/exception when trying to retrieve the endpoint list.
403	See *Error handling (page 19)*.	-	-
440	See *Error handling (page 19)*.	-	-

2.30   PatchEndpoint

General

Description

Updates an existing endpoint's settings.

URL

https://[host]/attunityenterprisemanager/api/v1/servers/[server]/endpoints/[endpoint]

HTTP Method

PATCH

Required user role

Required User Role: See *Required Enterprise Manager permissions (page 291)*.

Limitations

- The `/db_settings/`**`$type`** setting (or `/db_settings/connectioninfo/`**`$type`** setting for Java-based endpoints) cannot be updated. Java-based endpoints are as follows: Salesforce (Incremental Load), Salesforce (Streaming CDC), MongoDB, and SAP Extractor.
- If a task which uses the endpoint is currently running, changing the endpoint setting will only take effect after the task is restarted

Request parameters

Request parameters

Location	Name	Required	Description/Example
URL	host [string]	Yes	The host name of the Enterprise Manager machine. **Example:** computer.network.net
URL	server [string]	Yes	The Replicate server name as defined in Enterprise Manager. **Example:** myrepsrv1
URL	endpoint [string]	Yes	The endpoint display (logical) name. **Example:** my_s3_endpoint
Header	EnterpriseManager.APISessionID [string]	Yes	wCo0_KvjEUFROvfHF5KGrw

Request body

```
[

{ "op":"OPERATION", "path":"PATH", "value":"VALUE" }

...

]
```

Request parameters

Request parameters

Name	Description
op	The operation to execute. Supported operations are 'add','replace','remove', or 'test'. ⓘ • *'move' and 'copy' operations are not supported.* • *The 'add' operation replaces an existing field or adds a new one, if it does not exist.*

Name	Description

path	The path of the endpoint field that you want to edit or test.
	
	The path should be in the following format:
	
	`/db_settings/`*`endpoint-setting`*
	
	Example:
	
	`/db_settings/bucketName`
	
	To find the code equivalent of the user interface label, do one the following:
	
	• Export the relevant task (remember to choose the **With Endpoints** option) and then locate the "db_settings" section in the JSON file.
	• Utilize the browser's **Inspect** option as follows:
	  1. Right-click the label in the endpoint settings and select **Inspect** from the context menu.
	  2. Search for the `prop= string` above the `<label>` tag.
	
	The example below shows the **Elements** tab with `prop="bucketName"`, which corresponds to the **Bucket name** label in the endpoint settings.
	
	Example: Code equivalent of an endpoint setting
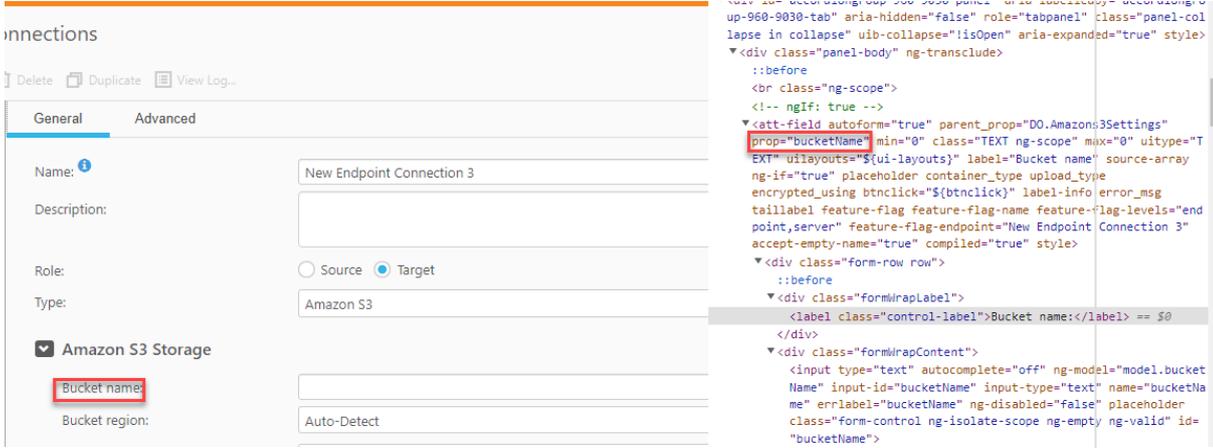
value	The new value for the specified field.

cURL example

Request

```
curl -i -k -X PATCH --header "EnterpriseManager.APISessionID: wCoO_KvjEUFROvfHF5KGrw"
https://computer.network.net/attunityenterprisemanager/api/v1/servers/myrepsrv1/endpoints/my_
s3 -T "C:\mypatch.json"
```

Request body (JSON file)

```
[

 { "op":"replace", "path":"/db_settings/bucketName",

"value":"my_new_bucket" }

]
```

Response

```
Headers:

HTTP/1.1 200 OK

Content-Length: 0

Content-Type: application/json; charset=utf-8
```

Error response

All of the general errors as well as the errors listed in the table below.

Error responses

HTTP Code	Enterprise Manager Code	Text	Description
500	AEM_PATCH_ ENDPOINT_ INNER_ERR	Failed to patch replication endpoint {endpoint} on server {server}.	Replicate experienced an error/exception when trying to patch the specified endpoint.
500	AEM_ ENDPOINT_ NOT_FOUND	Replication endpoint {endpoint} on server {server} could not be found.	Returned if Qlik Enterprise Manager cannot find the endpoint to patch.

2.31   DeleteEndpoint

General

URL

https://[host]/attunityenterprisemanager/api/v1/servers/[server]/endpoints/[endpoint]?action=delete

Description

Deletes the specified endpoint. Note than an endpoint can only be deleted if it is not in use by any task.

HTTP method

```
DELETE
```

Required user role

See *Required Enterprise Manager permissions (page 291)*.

Request parameters

<p align="center">Request parameters</p>

Location	Name	Required	Example
URL	`host` [string]	Yes	computer.network.net
URL	`ServerName` [string]	Yes	myrepsrv1
URL	EndpointName [string]	Yes	Shopping
Header	EnterpriseManager.APISessionID [string]	Yes	wCo0_KvjEUFROvfHF5KGrw
Header	Content-Length	Yes	Content-Length: 0 Note that the Content-Length value must be "0".

cURL example

Request

```
curl -i -k -X POST --header "EnterpriseManager.APISessionID: wCo0_KvjEUFROvfHF5KGrw" --header
"Content-Length: 0"

https://computer.network.net/attunityenterprisemanager/api/v1/

servers/myrepsrv1/endpoints/Shopping?action=delete
```

Response

```
Header:
      HTTP/1.1 200 OK
      Cache-Control: no-cache, no-store
      Content-Length: 38
      Content-Type: application/json; charset=utf-8
      Server: Microsoft-HTTPAPI/2.0
      Date: Mon, 26 Dec 2016 16:31:01 GMT
```

Error response

<p align="center">Error responses</p>

HTTP Code	Enterprise Manager Code	Text	Description
500	AEM_ ENDPOINT_ NOT_FOUND	Replicate endpoint {endpoint} on server {server} could not be found.	Endpoint name unknown to Qlik Enterprise Manager.

HTTP Code	Enterprise Manager Code	Text	Description
500	AEM_ DELETE_ ENDPOINT_ INNER_ERR	Failed to delete Replicate endpoint {endpoint} from server {server}.	Replicate encountered an error/exception when trying to delete the endpoint.
500	AEM_ ENDPOINT_ IS_IN_USE	Replicate endpoint {endpoint} on server {server} cannot be deleted as it is currently in use by one or more tasks.	The Replicate endpoint must be removed from its associated tasks before it can be deleted.
403	See *Error handling (page 19)*.	-	-
440	See *Error handling (page 19)*.	-	-

2.32   ReconfigureEndpointNoWait

> • *Supported with the Oracle source endpoint only.*
> • *Using this method, requires you to set up relevant Qlik Replicate task(s) with three separate source endpoints - two inactive source endpoints defined with the primary and secondary database connection settings, and one active source endpoint (initially defined with the primary database connection settings).*
> *For detailed instructions, see Reconfiguring endpoints (page 289).*

General

URL

https://[host]/attunityenterprisemanager/api/v1/servers/{server}/endpoints/ {endpoint}/?action=reconfigure&configuration={configuration}&recycle={true|false}

Description

Call this method to override the source endpoint settings with settings from another endpoint *of the same type.* This method also supports automatically stopping and then resuming all tasks that are using the source endpoint (which is required for unplanned switchovers).

HTTP method

PUT

Required user role

See *Required Enterprise Manager permissions (page 291)*.

Request parameters

Request parameters

Location	Name	Required	Description	Example
URL	Host [string]	Yes	The host name of the computer on which the Replicate Server is running.	computer.network.net
URL	ServerName [string]	Yes	The name of the Replicate server (as defined in Qlik Enterprise Manager) on which the task (s) are running.	myrepsrv1
URL	EndpointName [string]	Yes	The name of the source endpoint defined for the Replicate task (s).	MyOracle
URL	ConfigurationName [string]	Yes	The name of the secondary endpoint (or the primary endpoint when reverting the settings).	SecondaryOracle

Location	Name	Required	Description	Example
URL	Recycle [bool]	Optional (default is true)	Whether to stop and resume the Replicate task (s) automatically. The default is "true", that is, when an unanticipated switchover occurs, tasks using the source endpoint will be automatically stopped and then resumed after the source endpoint is updated with the settings from the secondary endpoint. Set to "false" for planned switchovers (such as migrating to a production database or switching back to the primary database).	true
Header	`EnterpriseManager.APISessionID [string]`	Yes	-	wCo0_ KvjEUFROvfHF5KGrw

cURL example

```
curl -i -k -X PUT --header "Content-Length:0" --header "EnterpriseManager.APISessionID: wCoO_
KvjEUFROvfHF5KGrw"
"https://computer.network.net/attunityenterprisemanager/api/v1/servers/myrepsrv1/endpoints/MyO
racle?action=reconfigure&configuration=SecondaryOracle&recycle=true"
```

Response

```
HTTP/1.1 200 OK

Cache-Control: no-cache, no-store

Content-Length: 0

Content-Type: application/json; charset=utf-8

Server: Microsoft-HTTPAPI/2.0

Application-Status: 200

Application-Message: OK

Date: Sun, 19 Feb 2019 16:42:11 GMT
```

Error response

All of the general errors as well as the errors listed in the table below.

Error responses

HTTP Code	Enterprise Manager Code	Text	Description
500	AEM_ENDPOINT_ NOT_FOUND	Replicate endpoint " {endpoint}" on server " {server}" could not be found.	The specified endpoint could not be found.
500	AEM_ RECONFIGURE_ ENDPOINT_ INNER_ERR	Failed to reconfigure endpoint "{endpoint}" on server " {server}". Error: "{message}"	Qlik Enterprise Manager failed to reconfigure the endpoint with the settings of the failover endpoint.

2.33   ExportAll

General

URL

https://{host}/attunityenterprisemanager/api/v1/servers/{ServerName}?action=export

Description

Export all definitions from the requested server repository on the selected server (server settings, tasks, endpoints, and so on). The definitions are exported to a JSON file.

Supported only with Replicate 5.2 and later.

HTTP method

GET

Required user role

See *Required Enterprise Manager permissions (page 291)*.

Request parameters

Request parameters

Location	URL Param Name	Required	Example
URL	`Host` [string]	Yes	computer.network.net
URL	`ServerName` [string]	Yes	myrepsrv1
Header	EnterpriseManager.APISessionID [string]	Yes	wCo0_KvjEUFROvfHF5KGrw

Response

JSON File

cURL example

Request

curl -i -k --header "EnterpriseManager.APISessionID: wCo0_KvjEUFROvfHF5KGrw"
https://computer.network.net/attunityenterprisemanager/api/v1/servers/ myrepsrv1?action=export

Response

JSON file (stream)

Error response

Error responses

HTTP Code	Enterprise Manager Code	Text	Description
500	AEM_METHOD_ NOT_ SUPPORTED_ VERSION	ExportAll is only supported on Replicate 5.2 or above.	The method requires Replicate 5.2 or above.
500	AEM_EXPORT_ NO_ PERMISSION_ ON_TASK	Failed to export all tasks from Replicate server {server} as the logged in user does not have permission to export one or more of the defined tasks.	Export all cannot be carried out because the user does not have permissions on one or more tasks.

HTTP Code	Enterprise Manager Code	Text	Description
500	AEM_EXPORT_ NO_ PERMISSION_ ON_ENDPOINT	Failed to export all tasks from server {server} as the logged in user does not have permission to export one or more of the defined endpoints.	Export all cannot be carried out because the user does not have permissions on one or more endpoints.

2.34   ImportAll

General

URL

https://`{Host}`/attunityenterprisemanager/api/v1/servers/`{ServerName}`?action=import

Description

Import the JSON definitions provided in the request body into the requested server repository on the selected server.

Supported only with replicate 5.2 and later.

The ApiImportAll method uses "merge" semantics. In particular:

- All valid JSON definitions provided in the request body will be imported. This includes server settings, task settings, endpoints, and other definitions.
- Items that existed in the target server before the import and have no new JSON definition in the request body will not be modified and in particular will not be removed. This means that ApiImportAll provides no way of removing old definitions that are no longer needed.

HTTP method

POST

Required user role

See *Required Enterprise Manager permissions (page 291)*.

Request parameters

Request parameters

Location	Name	Required	Example
URL	`Host` [string]	Yes	computer.network.net
URL	`ServerName` [string]	Yes	myrepsrv1
Header	EnterpriseManager.APISessionID [string]	Yes	wCo0_ KvjEUFROvfHF5KGrw

Location	Name	Required	Example
Header	Content-Length: This is the number of bytes in the content body. Note that the number of bytes that you specify must be exactly the same as the number of bytes in the JSON file. This number can be ascertained by copy-pasting the text into a text editor such as **Notepad ++** (which shows the number of bytes as "Length" at the bottom of its console).	Yes	"Content-Length: 110952"
Body	A JSON document to import [stream]	Yes	localServer1.json

Response

JSON File (stream)

cURL example

Request

curl -i -k -X POST --header "EnterpriseManager.APISessionID: wCo0_KvjEUFROvfHF5KGrw" --header "Content-Length: 110952" --header "Content-Type: application/json" " https://computer.network.net/attunityenterprisemanager/api/v1/servers/ myrepsrv1?action=import" -T "C:\exports\localServer1.json"

Response

```
HTTP/1.1 100 Continue

HTTP/1.1 200 OK

Cache-Control: no-cache, no-store

Content-Length: 0

Content-Type: application/json; charset=utf-8

Server: Microsoft-HTTPAPI/2.0

Date: Tue, 28 Feb 2017 19:05:12 GMT
```

Error response

Error responses

HTTP Code	Enterprise Manager Code	Text	Description
500	AEM_METHOD_ NOT_ SUPPORTED_ VERSION	ImportAll is only supported on Replicate 5.2 or above.	The method requires Replicate 5.2 or above.
500	AEM_IMPORT_ NO_ PERMISSION_ ON_TASK	Failed to import all tasks to replication server {server} as the logged in user does not have permission to add tasks.	Stream cannot be imported because the user does not have the permissions to add tasks.
500	AEM_IMPORT_ NO_ PERMISSION_ ON_ENDPOINT	Failed to import all tasks to replication server {server} as the logged in user does not have permission to add endpoints.	Stream cannot be imported because the user does not have the permissions to add endpoints
500	AEM_IMPORT_ CONTENT_ EMPTY	Failed to import all tasks to replication server {server} as the JSON file is empty.	Stream cannot be imported because it contains no content.
500	AEM_IMPORT_ INVALID_ CONTENT	Failed to import all tasks to replication server {server} as the JSON file contains invalid content.	Stream cannot be imported because it contains invalid content.

2.35   ReloadTable

General

URL

https://{host}/attunityenterprisemanager/api/v1/servers/{server}/tasks/ {task}/tables?action=reload&schema={schema}&table={table}

Description

Reload a specific table.

HTTP method

POST

Required user role

See *Required Enterprise Manager permissions (page 291)*.

Request parameters

<div align="center">Request parameters</div>

Location	Name	Required	Example
URL	`Host` [string]	Yes	computer.network.net
URL	`ServerName` [string]	Yes	myrepsrv1
URL	`TaskName` [string]	Yes	SalesDBBackup
URL	`Schema` [string]	Yes	dbo
URL	`Table` [string]	Yes	employeelist
Header	EnterpriseManager.APISessionID [string]	Yes	wCo0_KvjEUFROvfHF5KGrw
Header	Content-Length	Yes	Content-Length: 0 **Note:** The specified value must be "0".

cURL example

```
curl -i -k -X POST --header "EnterpriseManager.APISessionID: wCo0_KvjEUFROvfHF5KGrw" --header
"Content-Length: 0" "https://computer.network.net/attunityenterprisemanager/api/v1/servers/
myrepsrv1/tasks/SalesDBBackup/tables?action=reload&schema=dbo&table= employeelist"
```

Response

```
HTTP/1.1 200 OK

Cache-Control: no-cache, no-store

Content-Length: 0

Content-Type: application/json; charset=utf-8

Server: Microsoft-HTTPAPI/2.0

Date: Tue, 24 Jan 2017 13:34:38 GMT
```

Error response

<div align="center">Error responses</div>

HTTP Code	Enterprise Manager Code	Text	Description
500	AEM_ INVALID_ TASK_NOT_ FL	Failed to reload table {table} as Full Load is not enabled for task {task}.	The table could not be reloaded because the task's Full Load replication option is not enabled.

HTTP Code	Enterprise Manager Code	Text	Description
500	AEM_ INVALID_ TASK_NT_ NTSUPPEP	Failed to reload table as this operation is not supported with the File Channel source endpoint.	The table could not be reloaded because the task's source endpoint is File Channel.
500	AEM_ RELOAD_ TABLE_ERR	Failed to reload table {schema}. {table} for replication task {task} on server {server}: {message}	An error was encountered while trying to reload the specified table.

2.36 ResumeTable

General

URL

https://{host}/attunityenterprisemanager/api/v1/servers/{server}/tasks/ {task}/tables?action=Resume&schema={schema}&table={table}

Description

A table that was suspended due to errors can be unsuspended once the errors are resolved.

> Tables in a Full Load and Apply Changes task that were suspended during the Full Load stage cannot be unsuspended. Such tables need to be reloaded instead.

HTTP method

POST

Required user role

See *Required Enterprise Manager permissions (page 291)*.

Request parameters

Request parameters

Location	Name	Required	Example
URL	Host [string]	Yes	computer.network.net
URL	ServerName [string]	Yes	myrepsrv1
URL	TaskName [string]	Yes	SalesDBBackup
URL	Schema [string]	Yes	dbo

Location	Name	Required	Example
URL	`Table` [string]	Yes	employeelist
Header	EnterpriseManager.APISessionID [string]	Yes	wCo0_KvjEUFROvfHF5KGrw
Header	Content-Length	Yes	Content-Length: 0 **Note:** The specified value must be "0".

cURL example

```
curl -i -k -X POST --header "EnterpriseManager.APISessionID: wCo0_KvjEUFROvfHF5KGrw" --header
"Content-Length: 0" "https://computer.network.net/attunityenterprisemanager/api/v1/servers/
myrepsrv1/tasks/SalesDBBackup/tables?action=Resume&schema=dbo&table=employeelist"
```

Response

```
HTTP/1.1 200 OK

Cache-Control: no-cache, no-store

Content-Length: 0

Content-Type: application/json; charset=utf-8

Server: Microsoft-HTTPAPI/2.0

Date: Tue, 24 Jan 2017 13:34:38 GMT
```

Error response

Error responses

HTTP Code	Enterprise Manager Code	Text	Description
500	AEM_INVALID_ TASK_NT_ NTSUPPEP	Failed to unsuspend table as this operation is not supported with the File Channel source endpoint.	The table could not be unsuspend because the task's source endpoint is File Channel.
500	AEM_ UNSUSPEND_ TABLE_ERR	Failed to unsuspend table {schema}.{table} for replication task {task} on server {server}: {message}	An error was encountered while trying to unsuspend the specified table.

2.37   TestEndpoint

General

URL

https://{host}/attunityenterprisemanager/api/v1/servers/{server} endpoints/{endpoint}?action=test&timeout={timeout}

Description

Contact an endpoint to test connectivity and configuration (permissions, CDC configuration).

HTTP method

GET

Required user role

See *Required Enterprise Manager permissions (page 291)*.

Request parameters

Request parameters

Location	Name	Required	Example
URL	`Host` [string]	Yes	computer.network.net
URL	`ServerName` [string]	Yes	myrepsrv1
URL	`EndpointName` [string]	Yes	TargetSQL1
URL	`Timeout` [int32]	Optional (default is 60 sec)	60 (seconds)
Header	EnterpriseManager.APISessionID [string]	Yes	wCo0_KvjEUFROvfHF5KGrw

Response body

```
{

"requeststate":"{enum requeststate_state}",

"message":""

"detailed_message":""

}
```

Response parameters

Response parameters

Name	Description
state {enum endpoint_state]	The current state of the endpoint
message	Short description of the error
detailed message	Elaborate description of the error

cURL example

Request

```
c:\Tools\curl>curl -i -k --header "EnterpriseManager.APISessionID: wCoO_KvjEUFROvfHF5KGrw"
"https://computer.network.net /attunityenterprisemanager/api/v1/servers/
myrepsrv1/endpoints/TargetSQL1c?action=test&timeout=60"
```

Response

```
HTTP/1.1 200 OK

Cache-Control: no-cache, no-store

Content-Length: 61

Content-Type: application/json; charset=utf-8

Server: Microsoft-HTTPAPI/2.0

Date: Sun, 19 Feb 2017 16:42:11 GMT
```

Payload

```
{

"state":"CONNECTED",

"error_message":""

}
```

Error response

Error responses

HTTP Code	Enterprise Manager Code	Text	Description
500	AEM_TEST_ ENDPOINT_ CONNECTION_ TIMEOUT	A timeout occurred while testing the connection for endpoint {endpoint} on Replicate server {server}.	Connection was not established within 60 seconds.
500	AEM_ENDPOINT_ NOT_FOUND	Replicate endpoint {0} on server {1} could not be found.	The specified endpoint could not be found.

2.38   DeleteOldChangeData

General

Description

The method can be called on an ad-hoc basis to delete processed Change Data Partitions created on the target database by a Replicate task.

> ⓘ
> - *Partitions will only be deleted if the **Change Data Partitioning** and **Partition Retention** options are enabled in the Replicate console.*
>   *For more information, refer to the Qlik Replicate Setup and User Guide.*
> - *Partitions will only be deleted if the task is running. If the task is not running, the partitions will be deleted the next time the task runs.*
> - *Only partitions that are not locked by a consuming application will be deleted.*

URL

https://{host:port}/attunityenterprisemanager/api/v1/servers/{server}/tasks/ {task}?action=delete_old_change_data

HTTP method

POST

Required user role

See *Required Enterprise Manager permissions (page 291)*.

Request parameters

Request parameters

Location	Name	Required	Description/Example
URL	`host` [string]	Yes	The host name of the Enterprise Manager machine. **Example:** computer.network.net
URL	`server` [string]	Yes	The Replicate server name, as defined in Enterprise Manager. **Example:** myrepsrv1

Location	Name	Required	Description/Example
URL	task [string]	Yes	The Replicate task name. **Example:** TargetAWSEMR

Request body

The point in time after which partitions can be deleted, which can either be specified as a timestamp or as an offset. If a retention barrier is set, partitions will be deleted up to the retention barrier date, regardless of the specified timestamp/offset.

Timestamp format

[Date]

(yyyy'-'MM'-'dd'T'HH':'mm':'ss'Z')

Example:

2020-06-30T16:15:00Z

Offset format

[Period]

Format ISO 8601 duration

Example:

P1M3DT1H2M

cURL example

POST attunityenterprisemanager/api/v1/servers/myemserver/tasks/Oracle2NULL?action=delete_old_change_data

Parameters:

"timestamp_or_offset":"2020-07-30T16:15:00Z"

Error response

Error responses

HTTP Code	Enterprise Manager Code	Text	Description
500	AEM_TASK_ NOT_FOUND	Replication task {task] on server {server} could not be found.	Returned when an unknown task name is encountered.
500	AEM_INVALID_ TIMESTAMP_ OR_OFFSET_ FORMAT	The specified deletion age does not conform to the expected timestamp or offset format. Timestamp format should be yyyy'-'MM'-'dd'T'HH':'mm':'ss'Z'. Offset format should conform to ISO 8601 duration.	Returned when the specified deletion age does not conform to the expected timestamp or offset format.
500	AEM_DELETE_ OLD_CHANGE_ DATA_INNER_ ERR	Failed to request deletion of old change data for task {task} on server {server}. Message: {error_message}	Returned when an error is encountered during partition deletion.

2.39   SetChangeDataRetentionBarrier

General

Description

The method can be used to:

- Set a retention barrier for deleting consumed partitions. Setting a retention barrier will initiate periodic deletion of consumed Change Data Partitions from the target database defined for the specified task. Partitions will be deleted according to the **Allow consuming applications to delete partitions every** interval set on Replicate Server, and up to the specified "retention_point".

- Remove the retention barrier, thereby stopping periodic deletion of consumed Change Data Partitions.

> ℹ️
> - *Partitions will only be deleted if the **Change Data Partitioning** and **Partition Retention** options are enabled in the Replicate console.*
> - *Partitions will only be deleted if the task is running. If the task is not running, the partitions will be deleted the next time it runs.*
> - *Only partitions that are not locked by a consuming application will be deleted.*

URL

https://{host:port}/attunityenterprisemanager/api/v1/servers/{server}/tasks/ {task}?action=set_change_ data_retention_barrier

HTTP method

PUT

Required user role

See *Required Enterprise Manager permissions (page 291)*.

Request parameters

Request parameters

Location	Name	Required	Description/Example
URL	`host` [string]	Yes	The host name of the Enterprise Manager machine. **Example:** computer.network.net
URL	`server` [string]	Yes	The Replicate server name, as defined in Enterprise Manager. **Example:** myrepsrv1
URL	task [string]	Yes	The Replicate task name. **Example:** TargetAWSEMR

Request body

Body for setting a retention barrier

retention_point=*timestamp*

application=*application_name*

Where:

- *timestamp* is the date up to which partitions can be deleted. The timestamp must be in the following format: (yyyy'-'MM'-'dd'T'HH':'mm':'ss'Z').
- *application_name* is the name of the consuming application.

Example:

retention_point=2020-06-30T16:15:00Z

application=Compose

Body for removing the retention barrier

retention_point=

application=*application_name*

Where *application_name* is the name of the consuming application.

cURL example

PUT attunityenterprisemanager/api/v1/servers/roni-2012/tasks/Oracle2NULL?action=set_change_data_
retention_barrier

Parameters:

"retention_point":"2020-06-30T16:15:00Z",

"application": "xxx"

Error response

Error responses

HTTP Code	Enterprise Manager Code	Text	Description
500	AEM_TASK_ NOT_FOUND	Replication task {task] on server {server} could not be found.	Returned when an unknown task name is encountered.
500	AEM_INVALID_ TIMESTAMP_ FORMAT	The specified partition retention barrier does not conform to the expected timestamp format. Timestamp format should be yyyy'-'MM'- 'dd'T'HH':'mm':'ss'Z'.	Returned when the specified partition retention barrier does not conform to the expected timestamp format.
500	AEM_SET_ CHANGE_ DATA_ RETENTION_ BARRIER_ INNER_ERR	Failed to set change data retention barrier for task {task} on server {server}. Message: {error_message}	Returned when an error is encountered during partition deletion.

2.40   GetChangeDataRetentionBarrier

General

Description

Returns the date of the earliest partition retention barrier when multiple partition retention barriers have been set.

When different retention barriers have been set by multiple consuming applications, Replicate will delete old Change Data partitions up to the earliest partition retention barrier.

For information on setting a partition retention barrier, see *SetChangeDataRetentionBarrier (page 131)*.

URL

https://{host:port}/attunityenterprisemanager/api/v1/servers/{server}/tasks/ {task}?action=get_change_ data_retention_barrier

HTTP method

GET

Required user role

See *Required Enterprise Manager permissions (page 291)*.

Request parameters

Request parameters

Location	Name	Required	Description/Example
URL	`host` [string]	Yes	The host name of the Enterprise Manager machine. **Example:** computer.network.net
URL	`server` [string]	Yes	The Replicate server name, as defined in Enterprise Manager. **Example:** myrepsrv1
URL	task [string]	Yes	The Replicate task name. **Example:** TargetAWSEMR

Response body

Response parameters

Name	Type	Description
application	string	The name of the consuming application that set the earliest partition retention barrier.
retention_ point	`datetime` Format: yyyy'-'MM'-'dd'T'HH':'mm':'ss'Z'	The date of the earliest partition retention barrier.

cURL example

GET attunityenterprisemanager/api/v1/servers/roni-2012/tasks/Oracle2NULL?action=get_change_data_
retention_barrier

Response:

{"application":"xxx","retention_point":"2020-06-30T16:15:00Z"}

Error response

Error responses

HTTP Code	Enterprise Manager Code	Text	Description
500	AEM_TASK_ NOT_FOUND	Replication task {task] on server {server} could not be found.	Returned when an unknown task name is encountered.

2.41   Parameters

The following table lists all parameters used in the response body, along with their values.

Parameters

Parameter Name	Value / Description
Server State	• **MONITORED**: The server is being monitored, the Qlik Enterprise Manager is connected and synchronized successfully. • **ERROR**: Qlik Enterprise Manager fails to connect and monitor the server. • **NOT_MONITORED**: The server is not being monitored.
Server Platform	• **WINDOWS** • **LINUX**
License State	• **LICENSE_VALID** • **LICENSE_INVALID_CHECKSUM** • **LICENSE_EXPIRED NO_LICENSE** • **MACHINE_NOT_LICENSED** • **INVALID_LICENSE**
Endpoint Role	Specifies whether an endpoint is being used as a source or a target in a Replicate task. • **SOURCE** • **TARGET**

Parameter Name	Value / Description
Task State	• **RUNNING**: The task is running. • **STOPPED**: The task has not been run yet or has stopped running at some point during the replication. • **ERROR**: The task has stopped due to a fatal error. • **RECOVERING**: The task has detected an error and is trying to recover. After a limited number of attempts, the task either recovers and the state returns to **RUNNING**, or the task fails and the state turns to **ERROR**.
Task options	• **full_load_enabled [bool]**: Creates all files or tables at the target endpoint, automatically defines the metadata that is required at the target, and populates the tables with data from the source. • **apply_changes_enabled [bool]**: Updates all changes made to files and tables that were created during the full load. Applied changes include inserts, updates, and removal of items. • **store_changes_enabled [bool]**: Stores changes in Change tables. This value and the audit_changes_enabled value are mutually exclusive. • **audit_changes_enabled [bool]**: Stores changes in a single audit table. This value and the store_changes_enabled_value are mutually exclusive.
Task Stop reason	• **NONE**: Indicates that a task is running and no Stop reason is prevalent. • **NORMAL**: Indicates that the task was stopped by the user. • **RECOVERABLE_ERROR**: Indicates that the task is still active, but that there is a temporary problem, such as a missing connection. As soon as the error state is resolved, Replicate restarts the task. • **FATAL ERROR**: Indicates that the task stopped and the error must be resolved manually. The task cannot be started again until the error has been resolved. • **FULL_LOAD_ONLY_FINISHED**: Indicates that the task only finished full load. • **STOPPED_AFTER_FULL_LOAD**: Indicates that the task stopped after full load. Cached changes may or may not have been applied. • **STOPPED_AFTER_CACHED_EVENTS**: Indicates that the task stopped after cached changes were applied. • **EXPRESS_LICENSE_LIMITS_REACHED**: The task definition includes actions that are not included with Express license privileges. • **STOPPED AFTER_DDL_APPLY**: Indicates that the task stopped after DDL statements were applied. • **STOPPED_LOW_MEMORY**: Indicates that the task stopped due to low memory. • **STOPPED_LOW_DISK**: Indicates that the task stopped due to low disk space.

Parameter Name	Value / Description
Source/target status	• **RUNNING**: The endpoint is running. • **ERROR**: File channel only. Cannot send files to another endpoint. Indicated by an asterisk (*) in the user interface. • **DISCONNECTED**: Information that is provided by all targets and Oracle sources that cannot establish a successful connection. Other sources stop the task. Indicated by an asterisk (*) in the user interface. • **WARNING**: The target is applying changes one by one instead of bulk to find the problem. Indicatedby an asterisk (*) in the user interface.
Profile	• **Unidirectional**: A Replicate task that replicates from a source endpoint to a target endpoint. • **Bidirectional**: A Replicate task that replicates changes from the source to the target, and vice versa. • **Log Stream**: A Replicate task that captures changes from a single source and stores them on Replicate Server for replication to one or more targets. • **Data Storage:** A data storage task in a Compose Data Lake project. • **Data Warehouse:** A data warehouse task in a Compose Data Warehouse project. • **Data Mart:** A data mart task in a Compose Data Warehouse project. • **Compactor:** A Compose system task that merges the changes (i.e. history) from the **delta_hds** folder with the **hds** folder and then deletes the **delta_hds** folder. • **Workflow:** A workflow task in Compose.
Source type	Source and target endpoint types should be specified in the same format that they appear in the **Type** drop-down list (when adding a new endpoint in Enterprise Manager). For information on how to add an endpoint in Enterprise Manager, refer to the *Enterprise Manager* Setup and User Guide.
Target type	-

Parameter Name	Value / Description
Run options	• **RESUME_PROCESSING**: Resumes task execution from the point that it was stopped. • **RELOAD_TARGET**: Re-starts the full-load replication process if the task was previously run. • **RESUME_PROCESSING_FROM_TIMESTAMP**: Starts the CDC replication task from a specific point. • **RESUME_PROCESSING_FROM_POSITION**: The position in the log (e.g. SCN or LSN) from where to resume change processing. The source change position format differs according to your source endpoint. • **RECOVER_USING_LOCALLY_STORED_CHECKPOINT**: Recovers a task using the recovery state stored locally in the task folder (located under the Data folder). • **RECOVER_USING_CHECKPOINT_STORED_ON_TARGET**: Recovers a task using the CHECKPOINT value from the `attrep_txn_state` table (created in the target database). ℹ️ *This option is only available if the **Store task recovery data in target database** option is enabled in the **Changes Processing Tuning** tab of the **Task Settings** dialog box.* • **METADATA_ONLY_RECREATE_ALL_TABLES**: Recreates the target tables defined for full load. • **METADATA_ONLY_CREATE_MISSING_TABLES**: Creates missing target tables, including Change Tables.
Request state	• **SUCCESS**: Connection to endpoint is valid • **FAILURE**: Connection to endpoint is not valid
state	Represented as enum values: • **TABLE_QUEUED** = 0: A table awaiting loading. • **TABLE_LOADING** = 1: A table being loaded to the target. • **TABLE_COMPLETED** = 2: A table that has been loaded to the target. • **TABLE_CHANGE_PROCESSING** = 3: A table that has been loaded to the target and is being updated according to changes on the source. • **TABLE_ERROR** = 4: An error occurred while processing the table.
Table type	Represented as enum values: • **TABLE** = 1 • **VIEW** = 2

Parameter Name	Value / Description
Load order	Represented as enum values: • **LOWEST** = -2147483647; • **LOWER** = -5000; • **LOW** = -1000; • **NORMAL** = 0; • **HIGH** = 1000; • **HIGHER** = 5000; • **HIGHEST** = 2147483647;

3   Enterprise Manager .NET API

This section explains how to use the Enterprise Manager .NET API and lists the available methods.

In this section:

3.1   Prerequisites

General prerequisites

Before using the Enterprise Manager .NET SDK, make sure that:

- Qlik Enterprise Manager has been installed.
- The Qlik Enterprise Manager service is active.
- The relevant permissions have been granted.

.NET SDK prerequisites

The *<Enterprise Manager_Installation_Folder>/clients/dotnet>* folder contains the following required files:

- **AemRestClient.dll**
- **Newtonsoft.Json.dll**

3.2   Getting started - Login

This section describes how to get started with the Enterprise Manager .NET SDK. To help you better understand how to implement the available methods, a code sample and a readme file that describes the code are located in the *<Enterprise Manager_Installation_Folder>/clients/dotnet* folder.

To be able to use the Enterprise Manager .NET SDK:

1. Create a project that references the **AemRestClient.dll** and **Newtonsoft.Json.dll** files
2. Create the `AemRestClient` object using one of the following constructors:
    1. `public AemRestClient(ICredentials credentials, string url = "https://localhost/attunityenterprisemanager", bool verifyCertificate = true);`
        - credentials - See below.
        - url - The URL to the Qlik Enterprise Manager server. The URL must begin with `"https"`.
        - verifyCertificate - See below.
    2. `public AemRestClient(ICredentials credentials, string host, int port, string urlSuffix = "attunityenterprisemanager", bool verifyCertificate = true);`
        - credentials - See below.
        - host - The machine on which Enterprise Manager is installed.
        - port - The Enterprise Manager server port (usually 443).
        - urlSuffix - The part of the Enterprise Manager URL that follows the host and port (usually `attunityenterprisemanager`).
        - verifyCertificate - See below.

> ℹ️ When `verifyCertificate` is set to **true** there must be a valid certificate on the Enterprise Manager machine. When set to **false**, the Enterprise Manager client will not validate the server certificate.

Example 1: Connecting to Enterprise Manager using Active Directory

> ℹ️ This login method requires you to be in possession of a Personal Access Token generated in Enterprise Manager. You need to log in to Enterprise Manager using SAML and then generate a token.

```
var credentials = new NetworkCredential
{
UserName = "USERNAME",
Password = "PASSWORD",
Domain = "DOMAIN"
};
_client = new AemRestClient(credentials, "localhost", 443, false);
```

Example 2: Connecting to Enterprise Manager using OpenID Connect

> ℹ️ This login method requires you to be in possession of a Personal Access Token generated in Enterprise Manager.

```
var credentials = new NetworkCredential
{
UserName = "api-token",
Password = "EUni+sUn3dNxnDysRNYJctyhWxu8uzbYMXVqJLxqwtxnTsWu4D..."
};
_client = new AemRestClient(credentials, "localhost", 443, false);
```

Example 3: Connecting to Enterprise Manager using a JWT

> ℹ️ This login method requires you to be in possession of a JWT.

```
var credentials = new NetworkCredential
{
UserName = "jwt",
Password = "your-jwt-token"
};
_client = new AemRestClient(credentials, "localhost", 443, false);
```

Example 4: Using client methods to Get/Set data on Qlik Enterprise Manager

After creating credentials and a client object, you can call the client methods to get/set data from Enterprise Manager using the public APIs.

Syntax:
```
_client.GetServerList()
```

```
_client.GetServerDetails(serverName)
_client.ExportTask(serverName, taskName);
```

3.3   Authentication and authorization

The AemRestClient user and password need to be the user and password that are defined in users or groups in Qlik Enterprise Manager ACLs in at least one level (for example, Qlik Enterprise Manager level, All Servers level, and so on) with at least Viewer role.

3.4   Error handling

When a REST request fails, the HTTP response code is set to an error code. Information about the error is returned in the payload as an error response.

An error response has the following structure:

Class: AemClientException that inherits from Exception class and has the following fields:

```
ErrorCode
Message
```
This section lists the generic messages that apply to most of the API functions. Errors that are specific to a particular API function appear in the section for that API function.

Error responses

Error	Message	Description
UNAUTHORIZED_ REQUEST	Unauthorized Request.	The user is not authorized to perform the requested action (for example, deleting a task).
INVALID_SESSION_ ID	The session has expired or the session ID is not valid.	Session expired or invalid.
DESERIALIZE_TO_ TYPE	Failed to deserialize json to type {type}: {message}	Returned when the JSON format is invalid.
AEM_SERVER_ NOT_FOUND	The requested server {server} could not be found.	The requested server cannot be found.
AEM_SERVER_ NOT_MONITORED	The requested server {server} is not monitored.	The requested server is not being monitored and thus the information is not accessible.

Error	Message	Description
AEM_SERVER_ NOT_CONNECTED	The requested server "{server}" cannot be reached at this time. Message: {message}	The desired information cannot be retrieved as the requested server is not connected.
AEM_SERVER_ LICENSE_EXPIRED	The license for requested server {server} has expired.	The requested server license has expired.
AEM_SERVER_ INVALID_LICENSE	The license for requested server {server} is not valid.	The requested server license is not valid.
LICENSE_NOT_ FOUND	You need to register a Replication Management license in order to use Qlik Enterprise Manager. To register or obtain a license, open the Qlik Enterprise Manager console and follow the instructions.	Replication Management license was not found. Returned when a user is permitted to Register Qlik Enterprise Manager license.
LICENSE_NOT_ FOUND_CONTACT_ ADMIN	An Enterprise Manager Admin needs to register a Replication Management license before you can use the product. To obtain a license, contact your Qlik Sales Representative with the Enterprise Manager machine name (which is displayed when you open the Enterprise Manager console).	Replication Management license was not found. Returned when a user is NOT permitted to Register Qlik Enterprise Manager license.
LICENSE_ EVALUATION_ EXPIRED	{Module} evaluation license has expired.	{Module} is one of the following: • Replication Management • Replication Analytics
LICENSE_TERM_ EXPIRED	{Module} license has expired.	{Module} is one of the following: • Replication Management • Replication Analytics

Error	Message	Description
LICENSE_INVALID_ SIGNATURE	The {Module} license signature is invalid.	{Module} is one of the following: - Replication Management - Replication Analytics
LICENSE_HOST_ MISMATCH	The host name in the {Module} license does not match the Enterprise Manager machine name.	{Module} is one of the following: - Replication Management - Replication Analytics
AEM_MISSING_ FIELD	The "{fieldName}" field is missing from the request.	When a mandatory field is missing from the request or appears empty.

3.5   PutServerLicense

Registers a license on a specific server via Qlik Enterprise Manager.

Required User Role: See .

Syntax

```
public void PutServerLicense(
string payload,
string server
);
```

Parameters

Parameters

Parameter	Type	Description
payload	string	The license to register on the server [stream]. This is the license that was provided by your Qlik Sales Representative. **Expected format:** Text or JSON. Currently refers to the Replicate license only.
server	string	The name of the server.

Return values

N/A

Errors

All of the general errors as well as the errors listed in the table below.

Error responses

Error	Message	Description
AEM_PUT_ SRV_LIC_ INNER_ERR	Failed to put license for server " {server}". Error: "{message}"	Returned if Qlik Enterprise Manager encounters an error/exception when trying to register the license on the specified server.
AEM_SRV_LIC_ INVALID_ FORMAT	The license file format is corrupt.	Returned when the contents of the license file are invalid.

3.6   GetServerDetails

Retrieves details about the specified server.

Required User Role: See *Required Enterprise Manager permissions (page 291)*.

Syntax

```
public AemGetServerDetailsResp GetServerDetails(
string server
);
```

Parameters

Parameters

Parameter	Type	Description
server	string	The specified server name in Qlik Enterprise Manager.

Return values

AemGetServerDetailsResp

Return values

Parameter	Type	Description
ServerDetails	AemServerDetails	ReplicateServerDetails or ComposeServerDetails that are inherited from AemServerDetails.
Configuration	-	-

Parameter	Type	Description
Host	string	The host name or IP address of the Replicate/Compose Server machine.

Platform	AemPlatform
	{
	UNKNOWN = 0,
	WINDOWS = 1,
	LINUX = 2
	}
		The platform on which the Replicate/Compose Server machine is installed.

Port	string	The port through which the Replicate/Compose Server machine is accessed.
UserName	string	The user name for connecting to the Replicate/Compose Server machine.
Description	string	The server description.
LastConnection	string	The date and time of the last successful sync/retrieval of tasks and messages.
License	ApiLicense	-
DaysToExpiration	int	The number of days left before the license expires.
Expiration	string	The expiration date of the server license.
IssueDate	string	When the license was issued.

State	AemLicenseState
	{
	VALID_LICENSE = 0,
	INVALID_LICENSE_
	CHECKSUM = 1,
	EXPIRED_LICENSE =
	2,
	NO_LICENSE = 3,
	MACHINE_NOT_
	LICENSED = 4,
	INVALID_LICENSE = 5
	}
		The current license state (for example, valid, expired, and so on).

Parameter	Type	Description
Message	string	The error message if Qlik Enterprise Manager fails to connect to the Replicate/Compose Server machine.
Name	string	The name of the server in Qlik Enterprise Manager.
ResourceUtilization	AemServerUtilization	-
AttunityCpuPercentage	int	The sum of CPU percentage of Replicate server and all running tasks processes.
DiskUsageMb	long	The amount of disk space that the server is currently consuming, in MB. This is the sum of disk usage for all tasks on this server.
MachineCpuPercentage	int	The CPU percentage of the machine where Replicate is installed.
MemoryMb	long	The amount of memory that the server is currently consuming, in MB. This is the sum of memory usage for all active tasks on this server, excluding stopped tasks.
State	AemServerState { NOT_MONITORED = 0, MONITORED = 1, ERROR = 2 }	The state of the server.
AemTasksSummary	TaskSummary	-
Error	int	The number of tasks that encountered a fatal error.
Recovering	int	The number of recovering tasks.
Running	int	The number of running tasks.
Stopped	int	The number of stopped tasks.
Total	int	The total number of tasks, regardless of state.
Version	string	The Replicate/Compose Server version.

> - *The return value -1 means N/A.*
> - *Parameters related to Disk, Memory, Qlik CPU, and Machine CPU usage are not available for Compose servers. For Compose servers, these parameters will be returned as -1.*
> - *Parameters related to Qlik CPU and Machine CPU usage are only available for Replicate 6.2 and above. For earlier Replicate versions, these parameters will be returned as -1.*
> - *For servers that are in an error state or not monitored, parameters related to Disk and Memory usage will be returned as -1.*

Errors

Error responses

Error	Message	Description
AEM_SERVER_NOT_FOUND	Replicate server {server} could not be found.	Server name unknown to Qlik Enterprise Manager.

See *Error handling (page 143)*.

3.7   PutServer

Adds a new Replicate/Compose Server or updates the server definition (Connection Properties) if the specified server already exists. This method can be used together with AemGetServer in order to update the connection properties of an existing server.

First call AemGetServer, then edit the returned properties as required, and finally, call AemPutServer.

Required User Role: See *Required Enterprise Manager permissions (page 291)*.

Syntax

```
public void PutServer(
AemServer payload,
string server
);
```

Parameters

Parameters

Parameter	Type	Description
payload	AemServer	AemReplicateServer or AemComposeServer that is inherited from AemServer.
Name	string	The name of the server.
Description	string	The server description.

Parameter	Type	Description
Host	string	The host name or IP address of the server.
Port	string	The port through which the server is accessed.
Username	string	The user name to connect to the Replicate/Compose Server.
Password	string	The password to connect to the Replicate/Compose Server. ℹ *The password identifier (GUID) that is returned by GetServer is valid only for the session in which it was generated. Using it in another session (for example as input for PutServer) will result in exception.*
VerifyServerCertificate	bool	Set to "true" to ensure the Server certificate is trusted. As a rule, to reduce the chance of "man-in-the-middle" attacks, this option should always be set to "true". • When connecting directly to an Qlik Replicate replication server (default port 3552) with its automatically generated self-signed certificate, Qlik Enterprise Manager is able to validate the certificate without requiring any additional setup. • When connecting to a Replicate Server via the Replicate UI Server (typically using port 443) or to the Replicate replication server with a user-installed certificate, you must make sure that the SSL/TLS certificate used by the server is trusted by the Qlik Enterprise Manager machine. The same applies when connecting to a Compose Server with a user-installed certificate. You can easily verify whether the certificate is trusted by opening a Chrome browser window on the Qlik Enterprise Manager machine and connecting to Replicate. If there are no security warnings, the certificate is trusted. For information on the different ways of connecting to Qlik Replicate, see Qlik Replicate Server Requirements in the Qlik Enterprise Manager Help.
Monitored	bool	Whether to retrieve tasks and messages from this server or not.
server	string	The name of the server.

Return values

N/A

Errors

All of the general errors as well as the errors listed in the table below.

Error responses

Error	Message	Description
DESERIALIZE_ TO_TYPE	"Failed to deserialize json to type AemServer: {message}"	Returned when the JSON format is invalid. For example, such an error will be returned if the JSON contains an unknown role.
AEM_PUT_ SERVER_ INNER_ERR	Failed to put server "{server}". Error: "{message}".	Returned if Qlik Enterprise Manager encounters an error/exception when trying to PUT the server.
AEM_INVALID_ SERVER_TYPE	Server type {ServerType} for server "{ServerName}" is not valid.	Returned when an invalid server type is specified.
AEM_NAME_ URL_MISMATCH	The name of the server in the request does not match the one that is specified in the URL.	Returned when the name of the server in the request does not match the one that is specified in the URL.
AEM_EMPTY_ HOST	The host is missing from the request.	Returned when the host is missing from the request.
AEM_EMPTY_ PORT	The port is missing from the request.	Returned when the port is missing from the request.

Error	Message	Description
AEM_EMPTY_ USERNAME	The username is missing from the request.	Returned when the user name is missing from the request.
AEM_EMPTY_ PASSWORD	The password is missing from the request.	Returned when the password is missing from the request.
AEM_INVALID_ PORT	The port is invalid.	Returned when the specified port is not valid.
AEM_INVALID_ USERNAME	The user name is invalid. User names cannot exceed 104 characters and can contain all Unicode characters except for the following characters: Forward slash (/), Left square bracket ([), Right square bracket (]), Colon (:), Semicolon (;), Vertical bar (|), Equal sign (=), Plus sign (+), Asterisk (*), Question mark (?), Left angle bracket (<), Right angle bracket (>), Double quote (\").	Returned when the specified user name is not valid.
AEM_INVALID_ DESC	The description is invalid. Descriptions cannot exceed 250 characters.	Returned when the description exceeds 250 characters.
AEM_INVALID_ HOST	The host is invalid. Hosts cannot exceed 64 characters and can only contain letters (a-z or A-Z), digits, spaces, dots (.), dashes (-), and underscores (_).	Returned when the server host name exceeds 64 characters or contains invalid characters.
AEM_INVALID_ NAME	The name of the server is invalid. Server names cannot exceed 64 characters and can only contain letters (a-z or A-Z), digits, spaces, dots (.), dashes (-), and underscores (_).	Returned when the server name exceeds 64 characters or contains invalid characters.
AEM_HOST_ PORT_ ALREADY_EXIST	Host {name/IP} and port {number} are already in use by another server.	Returned when both the server host name/IP address and the server port are already in use by another server.

3.8   PutServerAcl

Puts an explicit ACL for a specific server in Qlik Enterprise Manager. The method will replace any existing explicit ACL with the ACL in the request. The request also includes a Boolean flag for specifying whether or not the server should inherit ACLs from its ancestors (in addition to its explicitly defined ACLs).

The inherited ACLs (that is, the ACLs of the server's ancestors) are not affected by this method.

The `AemPutServerAcl` can be used together with the `AemGetServerAcl` method in order to update an existing server's ACL. First call `AemGetServerAcl`, then edit the returned roles as required, and finally, call `AemPutServerAcl`.

Behavior when putting a partial request:

When the request body includes only some of the roles (as opposed to all four of them), only the roles specifically defined in the request body will be set on the server; roles that are missing or empty will be inherited, but only if the following are true:

- The `disable_inheritance` flag is set to "True".
- The roles that are missing/empty in the request are defined for the ancestors.

Behavior on conflicts:

If the `disable_inheritance` flag is set to "False" and the explicit roles in the request conflict with existing inherited roles, then the explicit roles will take precedence. For example, if the request defines user A as a Viewer on **MyServer** and user A is also defined as an Admin on All Servers, then user A will be defined as an Admin on All Servers but as a Viewer on **MyServer**.

> *The user permissions in Enterprise Manager are completely independent of the user permissions in Replicate. Consequently, `AemPutServerAcl` will affect the server's Enterprise Manager user permissions, but will not affect Replicate's user permissions.*
>
> *Moreover, when performing an operation via Enterprise Manager, the user permissions defined for the server entity in Enterprise Manager apply, whereas when performing an operation directly via the Replicate Console, the user permissions defined in Replicate apply.*

> *Defining the same user/group in different roles is not allowed. However, if the same user or group is defined in different roles but with a different case (for example, Mike vs. mike or Analysts vs. ANALYSTS), no error will be returned and the strongest role will take precedence.*

Required User Role: See *Required Enterprise Manager permissions (page 291)*.

Syntax

```
public void PutServerAcl(
```

```
AemAuthorizationAcl payload,
string server
);
```

Parameters

Parameters

Parameter	Type	Description
payload	AemAuthorizationAcl	-
DisableInheritance	bool	If set to "true", the server does not inherit ACLs from its ancestors (in addition to its explicit ACLs). If set to "false", the server inherits ACLs from its ancestors, in addition to any explicit ACLs.
AdminRole	AemRoleDef	Users and/or groups assigned as Admin role.
DesignerRole	AemRoleDef	Users and/or groups assigned as Designer role.
OperatorRole	AemRoleDef	Users and/or groups assigned as Operator role.
ViewerRole	AemRoleDef	Users and/or groups assigned as Viewer role.
Groups	List<AemGroupRef>	Groups assigned as the role.
Name	string	The group name.
Users	List<AemUserRef>	Users assigned as the role.
Name	string	The user name.
server	string	The name of the server.

Return values

N/A

Errors

All of the general errors as well as the errors listed in the table below.

Error responses

Error	Message	Description
DESERIALIZE_TO_TYPE	"Failed to deserialize json to type AemAuthorizationAcl: {message}"	Returned when the JSON format is invalid. For example, such an error will be returned if the JSON contains an unknown role.
AEM_PUT_SERVER_ACL_INNER_ERR	Failed to put ACL of server "{server}". Error: "{message}".	Returned if Qlik Enterprise Manager encounters an error/exception when trying to put the server's ACL.

Error	Message	Description
AEM_NO_ DOMAIN_IN_ USER	User "{userName}" must be preceded by a domain name, separated by a backslash. **Example:** domain_name\user_name.	Returned when the domain is missing from the user name.
AEM_NO_ DOMAIN_IN_ GROUP	Group "{groupName}" must be preceded by a domain name, separated by a backslash. **Example:** domain_name\group_name.	Returned when the domain is missing from the group name.
AEM_NO_ ADMIN_ON_ SERVER	Requested server "{serverName}" has no admin user. At least one user or group must be assigned to the "admin" role.	Returned when there is no admin on the server. Possible reasons: • The request JSON is set to `disable_inheritance=true` and the explicit admin role in the JSON is empty. • The JSON is set to `disable_ inheritance =true`, the explicit admin role in the JSON is empty, and the parent levels do not have an admin user to inherit.
AEM_USER_ ASSIGNED_TO_ MULTIPLE_ ROLES	User "{userName}" is assigned to multiple roles. Users can only be assigned to a single role.	Returned when a user is assigned to multiple roles.
AEM_GROUP_ ASSIGNED_TO_ MULTIPLE_ ROLES	Group "{groupName}" is assigned to multiple roles. Groups can only be assigned to a single role.	Returned when a group is assigned to multiple roles.
AEM_USER_ GROUP_ MULTIPLE_ ASSIGNED	"{userName/groupName}" is assigned to multiple roles or to the same role twice. Users/groups can only be assigned once, and to a single role.	Returned either when the specified user already exists as a group in the same/another role, or the specified group already exists as a user in the same/another role.

3.9   GetServer

Retrieves the definition (Connection Properties) of the specified server. This method can be used together with PutServer in order to update the connection properties of an existing server. First, call GetServer, then edit the returned properties as required, and finally, call PutServer.

Required User Role: See *Required Enterprise Manager permissions (page 291)*.

Syntax

```
public AemServer GetServer(
string server
);
```

Parameters

Parameters

Parameter	Type	Description
server	string	The name of the server to retrieve.

Return values

AemServer (AemReplicateServer or AemComposeServer that inherited from AemServer)

Return values

Parameter	Type	Description
Host	string	The host name or IP address of the server.
Port	string	The port through which the server is accessed.
Name	string	The name of the server.
Description	string	The server description.
Username	string	The user name to connect to the Replicate/Compose Server.
Password	string	The password to connect to the Replicate/Compose Server. ⓘ *The password identifier (GUID) that is returned by GetServer is valid only for the session in which it was generated. Using it in another session (for example as input for PutServer) will result in exception.*
VerifyServerCertificate	bool	When "true", Qlik Enterprise Manager verifies that the Server certificate is trusted, thereby reducing the chance of "man-in-the-middle" attacks. For details on setting this option, see *PutServer (page 149)*.
Monitored	bool	Whether to retrieve tasks and messages from this server or not.

Errors

See general errors.

3.10 GetServerAcl

Retrieves the explicit ACL defined in Qlik Enterprise Manager for the specified server, including a Boolean indication if ACL inheritance is disabled or enabled for the server.

The method returns the explicit ACL only. In other words, it does not return inherited ACLs.

If all of the server ACLs are inherited (i.e. no ACL was explicitly defined for the server), an error will be returned indicating that no ACL was found.

This method can be used together with `AemPutServerAcl` in order to update an existing server's ACL. First, call `AemGetServerAcl`, then edit the returned roles as required, and finally, call `AemPutServerAcl`.

Required User Role: See *Required Enterprise Manager permissions (page 291)*.

Syntax

```
public AemAuthorizationAcl GetServerAcl(
string server
);
```

Parameters

Parameters

Parameter	Type	Description
server	string	The name of the server where the ACL is located.

Return values

AemAuthorizationAcl

Return values

Parameter	Type	Description
DisableInheritance	bool	If set to "true", the server does not inherit ACLs from its ancestors (in addition to its explicit ACLs). If set to "false", the server inherits ACLs from its ancestors, in addition to any explicit ACLs.
AdminRole	AemRoleDef	Users and/or groups assigned as Admin role.
DesignerRole	AemRoleDef	Users and/or groups assigned as Designer role.
OperatorRole	AemRoleDef	Users and/or groups assigned as Operator role.
ViewerRole	AemRoleDef	Users and/or groups assigned as Viewer role.
Groups	List<AemGroupRef>	Groups assigned as the role.

Parameter	Type	Description
Name	string	The group name.
Users	List<AemUserRef>	Users assigned as the role.
Name	string	The user name.

Errors

All of the general errors as well as the errors listed in the table below.

Error responses

Error	Message	Description
AEM_GET_ SERVER_ACL_ INNER_ERR	Failed to get ACL of server "{server}". Error: "{message}".	Returned if Qlik Enterprise Manager encounters an error/exception when trying to get the server ACL.
AEM_SERVER_ HAS_NO_ACL	ACL for server " {server}" could not be found.	Returned if no explicit ACL is defined for the server. *A server that does not have its own explicit ACL inherits the ACL from its ancestors. Inherited ACLs are not returned by this method.*

3.11   GetServerList

Retrieves a list of servers under Qlik Enterprise Manager management as well as each server's properties.

Required User Role: See *Required Enterprise Manager permissions (page 291)*.

Syntax

```
public AemGetServerListResp GetServerList(
);
```

Parameters

N/A

Return values

AemGetServerListResp

Return values

Value	Type	Description
ServerList	List<AemServerInfo>	ReplicateServerInfo or ComposeServerInfo that inherit from AemServerInfo.

Value	Type	Description
Description	string	The description of the server.
Host	string	The host name or IP address of the server.
LastConnection	string	The date and time of the last successful sync/retrieval of tasks and messages.
Message	string	The error message if Qlik Enterprise Manager fails to connect to the server.
Name	string	The name of the server.

Platform	AemPlatform
	
	{
	
	UNKNOWN = 0, WINDOWS = 1, LINUX = 2
	
	}
		AemPlatform

Port	string	The port through which the server is accessed.

State	AemServerState
	
	{
	
	NOT_MONITORED = 0,
	
	MONITORED = 1,
	
	ERROR = 2
	
	}
		AemServerState

Version	string	The Replicate/Compose Server version.

Errors

All of the general errors as well as the errors listed in the table below.

Error responses

Error	Message	Description
AEM_SERVER_NOT_ FOUND	Replicate server {server} could not be found.	Server name unknown to Qlik Enterprise Manager.

3.12   DeleteServer

Description

When this method is called, Qlik Enterprise Manager will:

- Delete the specified server from Qlik Enterprise Manager
- Stop monitoring any tasks that were defined on the server
- Delete all messages related to the server from the Message Center
- Delete all user roles defined for the server, the server tasks, and the server endpoints

> The above operations will be performed, regardless of whether the server is currently being monitored or in an error state.

Required User Role: See *Required Enterprise Manager permissions (page 291)*.

Syntax

```
public void DeleteServer(
string server
);
```

Parameters

Parameters

Parameter	Type	Description
server	string	The name of the server to be deleted.

Return values

N/A

Errors

All of the general errors as well as the errors listed in the table below.

Error responses

Error	Text	Description
AEM_SERVER_ NOT_FOUND	Requested server " {server}" could not be found.	The server name is unknown to Qlik Enterprise Manager.
AEM_DELETE_ SERVER_INNER_ ERR	Failed to delete requested server "{server}".	Qlik Enterprise Manager encountered an error/exception when trying to delete the server.

3.13   DeleteServerAcl

Deletes the explicit ACL defined in Qlik Enterprise Manager for the specified server. Inherited ACLs are not affected by this method. Once the explicit ACL is deleted from the server, all ACLs will be automatically inherited from the server's ancestors.

Required User Role: See *Required Enterprise Manager permissions (page 291)*.

Syntax

```
public void DeleteServerAcl(
string server
);
```

Parameters

Parameters

Parameter	Type	Description
server	string	The name of the server whose ACL needs to be deleted.

Return values

N/A

Errors

All of the general errors as well as the errors listed in the table below.

Error responses

Error	Message	Description
AEM_DELETE_ SERVER_ACL_ INNER_ERR	Failed to delete ACL of server "{server}". Error: "{message}".	Returned if Qlik Enterprise Manager encounters an error/exception when trying to delete the server's ACL.
AEM_SERVER_ HAS_NO_ACL	ACL for server "{server}" could not be found.	Returned when the specified server has no explicit ACL defined.

3.14   GetTaskList

Receive a list of tasks per selected and authorized server. For each task, the API returns a few values.

Required User Role: See *Required Enterprise Manager permissions (page 291)*.

Syntax

```
public AemGetTaskListResp GetTaskList(
string server
);
```

Parameters

Parameters

Parameter	Type	Description
server	string	The name of the server on which the tasks reside.

Return values

AemGetTaskListResp

<p align="center">Return values</p>

Value	Type	Description
TaskList	List<AemTaskInfo>	An array of Endpoint objects.
Name	string	• **Replicate:** - The name of the task. • **Compose:** - The name of the task or workflow appended with a double underscore and the project name. **Example:** `mytask__myproject`

State	AemTaskState
	
	{
	
	STOPPED = 0,
	
	RUNNING = 1,
	
	ERROR = 2,
	
	RECOVERY = 3
	
	}
		-

Value	Type	Description

StopReason	AemTaskStopReason
	{
	
	NONE = 0,
	
	NORMAL = 1,
	
	RECOVERABLE_
	ERROR = 2,
	
	FATAL_ERROR = 3,
	
	FULL_LOAD_ONLY_
	FINISHED = 4,
	
	STOPPED_AFTER_
	FULL_LOAD = 5,
	
	STOPPED_AFTER_
	CACHED_EVENTS = 6,
	
	EXPRESS_LICENSE_
	LIMITS_REACHED = 7,
	
	STOPPED_AFTER_
	DDL_APPLY = 8,
	
	STOPPED_LOW_
	MEMORY = 9,
	
	STOPPED_LOW_
	DISK_SPACE = 10
	
	}
		The reason the task stopped. For Compose tasks, this will always be NONE.

Message	string	The message if the task stopped due to an error.
AssignedTags	array	Returns the custom tags assigned to the task. If no tags are assigned to the task, an empty array will be returned.

Errors

See general errors.

3.15   GetTaskDetails

Retrieves details about a selected and authorized task. The API returns full monitoring information related to the selected task.

Required User Role: See *Required Enterprise Manager permissions (page 291)*.

Syntax

```
public AemGetTaskDetailsResp GetTaskDetails(
string server,
string task
);
```

Parameters

Parameters

Parameter	Type	Description
server	string	The name of the server.
task	string	• **Replicate:** - The name of the task. • **Compose:** - The name of the task or workflow appended with a double underscore and the project name. **Example:** `mytask__myproject`

Return values for Replicate tasks

AemGetTaskDetailsResp

Return values

Value	Type	Description
Task	AemTaskInfoDetailed	-
Type	string	The task type: AemTaskInfoDetailed
Name	string	The name of the task.
Description	string	The task description. If there is no description, an empty string will be returned.
CdcEventCounters	AemTaskCdcEventCounters	All numeric data concerning CDC events.
AppliedDdlCount	long	The total number of metadata changes, such as add column.

Value	Type	Description
AppliedDeleteCount	long	The number of records deleted in total for all tables.
AppliedInsertCount	long	The number of records added in total for all tables.
AppliedUpdateCount	long	The number of records updated in total for all tables.
CdcLatency	AemCdcLatency	CDC latency information.
SourceLatency	string	The time gap between the original change in the source endpoint and capturing it, in hh:mm:ss.
TotalLatency	string	The overall latency (source latency + target latency + apply latency), in hh:mm:ss.
CdcThroughput	AemCdcThroughput	Indicates how fast the table records are being replicated to the target endpoint (by number or volume of records). Refers only to the current/last CDC.
SourceThroughputRecordsCount	AemCdcThroughputItem	The current source throughput, in rec/sec.
SourceThroughputVolume	AemCdcThroughputItem	The current source throughput, in kbyte/sec.
TargetThroughputRecordsCount	AemCdcThroughputItem	The current target throughput, in rec/sec.

Value	Type	Description
TargetThroughputVolume	AemCdcThroughputItem	The current target throughput, in kbyte/sec
Current	long	-
CdcTransactionsCounters	AemCdcTransactionsCounters	All numeric data concerning CDC transactions.
AppliedComittedTransactionCount	long	The number of transactions committed.
AppliedRecordsComittedCount	long	The sum of all records/events in all Completed transactions.
AppliedRecordsInProgressCount	long	The sum of all records/events in all In-Progress transactions.
AppliedTransactionsInProgressCount	long	The number of transactions in progress.
AppliedVolumeComittedMb	long	The sum of all volume/events in all Completed transactions, in MB.
CommitChangeRecordsCount	long	The number of COMMIT change records.
IncomingAccumulatedChangesOnDiskCount	long	The number of changes accumulated on disk until source commit.
IncomingAccumulatedChangesInMemoryCount	long	The number of changes accumulated in memory until source commit.

Value	Type	Description
IncomingApplyingChangesInMemoryCount	long	The number of changes in memory during apply and until target commit.
IncomingApplyingChangesOnDiskCount	long	The number of changes on disk during apply and until target commit.
RollbackChangeRecordsCount	long	The number of ROLLBACK change records.
RollbackChangeVolumeMb	long	The volume of ROLLBACK changes, in MB.
RollbackTransactionCount	long	The number of changes in memory during apply and until target commit.
FullLoadCompleted	bool	-
FullLoadCounters	AemTaskFullLoadCounters	All numeric data concerning Full Load events.
EstimatedRecordsForAllTablesCount	long	The estimated number of records remaining to be loaded into the target endpoint.
RecordsCompletedCount	long	The total number of records that have completed loading into the target endpoint.
TablesCompletedCount	int	The number of tables that have been loaded into the target endpoint.

Value	Type	Description
TablesLoadingCount	int	The number of tables that are currently being loaded into the target endpoint.
TablesQueuedCount	int	The number of tables that are waiting to be loaded due to an error.
TablesWithErrorCount	int	The number of tables that could not be loaded due to an error.
FullLoadEnd	string	Indicates whether the full load process has ended.
FullLoadStart	string	The start time of the full load process. Format: YYY MM DD Timezone: UTC
FullLoadThroughput	AemFullLoadThroughput	-
SourceThroughputRecordsCount	int	The current source throughput, in rec/sec.
SourceThroughputVolume	int	The current source throughput, in kbyte/sec.
TargetThroughputRecordsCount	int	The current target throughput, in rec/sec.
TargetThroughputVolume	int	The current target throughput, in kbyte/sec.

Value	Type	Description
MemoryMb	long	The current utilization of memory, in MB. A task's memory utilization is sampled every 10 seconds. When the task is not running, the value is set to zero (0).
CpuPercentage	-	The current CPU usage of the Replicate task process. ⓘ *Only available for Replicate tasks running on Replicate 6.2 and above. When not available, this parameter will be returned as -1.*
DiskUsageMb	long	The current utilization of disk space, in MB. A task's disk utilization is sampled every minute.

Value	Type	Description
DataErrorCount	long	The total number of data errors in all tables involved in the task. The count is affected by data errors and the **Reset Data Errors** option available when you drill down to a task.
Options	AemCommonSettings	-
ApplyChangesEnabled	bool	See Task Options.
AuditChangesEnabled	bool	See Task Options.
FullLoadEnabled	bool	See Task Options.
StoreChangesEnabled	bool	See Task Options.
Profile	string	See Profile Parameters.
SourceEndpoint	TaskEndpoint	-
Name	string	The name of the source endpoint.
Type	string	The source endpoint type.
TargetEndpoint	TaskEndpoint	-
Name	string	The name of the target endpoint.
Type	string	The target endpoint type.

State	AemTaskState
	
	`{`
	`STOPPED = 0,`
	`RUNNING = 1,`
	`ERROR = 2,`
	`RECOVERY = 3`
	`}`
		The current state of the task.

Value	Type	Description

TaskStopReason	AemTaskStopReason
	
	{
	
	NONE = 0,
	
	NORMAL = 1,
	
	RECOVERABLE_ERROR = 2,
	
	FATAL_ERROR = 3,
	
	FULL_LOAD_ONLY_ FINISHED = 4,
	
	STOPPED_AFTER_FULL_ LOAD = 5,
	
	STOPPED_AFTER_ CACHED_EVENTS = 6,
	
	EXPRESS_LICENSE_ LIMITS_REACHED = 7,
	
	STOPPED_AFTER_DDL_ APPLY = 8,
	
	STOPPED_LOW_MEMORY = 9,
	
	STOPPED_LOW_DISK_ SPACE = 10
	
	}
		The reason the task stopped.

LogStreamStaging	string	If the task is writing to/reading from the Log Stream staging folder, the name of the associated Log Stream Staging task will be returned. Otherwise, an empty string will be returned.

Value	Type	Description
Message	string	The message if the task stopped due to an error.
AssignedTags	array	Returns the custom tags assigned to the task. If no tags are assigned to the task, an empty array will be returned.

Return values for Compose tasks

General parameters

Name	Type	Description
type	string	One of the following: • AemComposeDWTaskInfoDetailed (for Data Warehouse tasks) • AemComposeDMTaskInfoDetailed (for Data Mart tasks) • AemComposeDLTaskInfoDetailed (for Data Lake tasks)
project	string	The name of the Compose project.
profile	string	See Profile Parameters.
name	string	The name of the task or workflow appended with a double underscore and the project name. **Example:** `mytask__myproject`
description	string	The task description. If there is no description, an empty string will be returned.
state	string	The current task state.
message	string	The message shown in the event that the task ends with an error.
options	AemCommonSettings	-
FullLoadEnabled	bool	Indicates whether the Full Load option is enabled. Can be "true" or "false".
ApplyChangesEnabled	bool	Indicates whether the Change Processing option is enabled. Can be "true" or "false".

Source endpoint parameters

Name	Type	Description
source_endpoint	TaskEndpoint	-
name	string	The logical name of the landing database.
type	string	The landing database type.

target_endpoint parameters

Name	Type	Description
target_endpoint	TaskEndpoint	-
name	string	The logical name of the storage database.
type	string	The storage database type.
LoadingCompleted	bool	Indicates whether the loading process has completed. Can be "true" or "false".
LoadingStart	string	The start time of the loading process. Format: YYY MM DD Timezone: UTC
LoadingEnd	string	The end time of the loading process. Format: YYY MM DD Timezone: UTC

Loading counters parameters

Name	Type	Description
LoadingCounters	AemTaskFullLoadCounters	-
TablesTotalCount	int	The total number of tables.
TablesCompletedCount	int	The number of tables that have been loaded into the target endpoint.
TablesLoadingCount	int	The number of tables that are currently being loaded into the target endpoint.
TablesQueuedCount	int	The number of tables that are waiting to be loaded due to an error.
TablesWithErrorCount	int	The number of tables that could not be loaded due to an error.
CommandsTotalCount	int	The total number of commands executed.

Name	Type	Description
CommandsCompletedCount	int	The total number of commands completed.
AssignedTags	array	Returns the custom tags assigned to the task. If no tags are assigned to the task, an empty array will be returned.

Errors

All of the general errors as well as the errors listed in the table below.

Error responses

Error	Message	Description
AEM_TASK_ NOT_FOUND	Replication task{task} on server {server} could not be found.	The task name is unknown to Qlik Enterprise Manager.

3.16 GetTableList

Retrieves the list of tables of a specific Replicate task that matches the specified state(s), table schema(s), and table name(s). This is useful for automation processes, for example, as it allows you to retrieve tables in a certain state (for example, suspended) and then perform an operation on them (for example, ReloadTable).

Required User Role: See *Required Enterprise Manager permissions (page 291)*.

Syntax

```
AemGetTableListResp GetTableList(
string server,
string task,
string schema = null,
string table = null,
bool includequeued = false,
bool includeloading = false,
bool includecompleted = false,
bool includechangeprocessing = false,
bool includeerror = false
)
```

Request parameters

Request parameters

Value	Type	Description
server	string	The Replicate Server name as defined on Qlik Enterprise Manager. Example: myrepsrv1

Value	Type	Description
schema	string	The default is all source schemas. Specifying a specific schema name will retrieve all tables from the specified schema. Specifying a pattern will retrieve all tables from schemas that match the pattern. For example, specifying **ad%** will retrieve tables from the **adventure** and **adventuretwo** schemas. ⓘ *Schema names are case-sensitive.*
table	string	The default is all source tables. Specifying a specific table name will retrieve the specified table. Specifying a pattern will retrieve all tables that match the pattern. For example, specifying **em%** will retrieve the **employees** and **employed** tables.Table names are case-sensitive.
includequeued	boolean	Whether to retrieve tables in a queued state.
includeloading	boolean	Whether to retrieve tables in a loading state.
includecompleted	boolean	Whether to retrieve tables in a completed state.
includechangeprocessing	boolean	Whether to retrieve tables in a Change Processing state (that is, tables that are having changes applied to them).
includeerror	boolean	Whether to retrieve tables in an error state.

Return values

AemGetTableListResp

Return values

Value	Type	Description
TableList	List	List of tables that matches the specified input parameters.
schema	string	The name of the schema.
table	string	The name of the table.
state	enum	The current state of the table.

Errors

All of the general errors as well as the errors listed in the table below.

Error responses

Error	Message	Explanation	Description
500	AEM_TABLE_ LIST_INNER_ ERR	Failed to retrieve table list for replication task " {task}" on server "{server}". Error: "{message}"	Returned when the table list cannot be retrieved.
500	AEM_TASK_ NOT_FOUND	Replicate task {task} on server {server} could not be found.	The task name is unknown to Enterprise Manager.

3.17   GetTaskTableSelection

Retrieves the list of tables selected for inclusion (either explicitly or using pattern) in a specific Replicate task.

Required user role

See *Required Enterprise Manager permissions (page 291)*.

Syntax

```
public TableSelectionDefinition GetTaskTableSelection(
string server,
string task
)
```

Call parameters

Parameters

Parameter	Type	Description
server	string	The Replicate Server name as defined on Qlik Enterprise Manager. **Example:** myrepsrv1
task	string	The Replicate task for which to retrieve the list of tables.

Errors

All of the general errors as well as the errors listed in the table below.

Error responses

HTTP Code	Enterprise Manager Code	Text	Description
500	AEM_TABLE_ LIST_INNER_ ERR	Failed to retrieve table list for replication task " {task}" on server "{server}". Error: "{message}"	Returned when the table list cannot be retrieved.
500	AEM_TASK_ NOT_FOUND	Replicate task {task} on server {server} could not be found.	The task name is unknown to Enterprise Manager.

3.18   PutTaskTableSelection

Overrides the list of tables selected for inclusion in a specific Replicate task.

Required user role

See *Required Enterprise Manager permissions (page 291)*.

Syntax

```
public void PutTaskTableSelection(
TableSelectionDefinition payload,
string server,
string task
)
```

Call parameters

Parameters

Parameter	Type	Description
payload	TableSelectionDefinition	A class containing the table selection definitions as a payload. See the example below.
server	string	The Replicate Server name as defined on Qlik Enterprise Manager. **Example:** myrepsrv1
task	string	The Replicate task for which to change the selected tables.

Payload attributes

The following attributes can be included in the payload:

- **List<TableSelection> IncludedPattern:** Tables matching this pattern will be included.
- **List<TableSelection> ExcludedPattern:** Tables matching this pattern will be excluded.
- **List<TableSelection> ExplicitIncludedTables:** Tables matching this name will be included.

Payload class

The following are part of the TableSelection class:

- **Owner (string):** The table schema or owner
- **Name (string):** Tables to include or exclude according to the attribute: **IncludedPattern**, **ExcludedPattern**, or **ExplicitIncludedTables**
- **LoadOrder (long):** The order in which the tables will be loaded to the target. "0" means random order. See Load order for additional enums that can be used to define the load order. You can also set the value to `StandardLoadOrder.LOWEST, StandardLoadOrder.LOW,`

```
StandardLoadOrder.NORMAL, StandardLoadOrder.HIGH, or
StandardLoadOrder.HIGHEST.
```

- **TableType (TableType):** The entity type. Can be view or table.

Example payload

```
var tableSelectionDefinition = new TableSelectionDefinition
{
      IncludedPattern = new List<TableSelection>
      {
       new TableSelection
       {
         Owner = "schema%",
         Name="ab%yz%",
         LoadOrder = (int)StandardLoadOrder.LOWEST
       }
      },
       ExcludedPattern = new List<TableSelection>
       {
        new TableSelection
        {
             Owner = "schema3",
             Name="abcd%",
        }
       },
       ExplicitIncludedTables = new List<TableSelection>
       {
       new TableSelection
       {
        Owner = "schema1",
        Name = "tbl1",
       },
       new TableSelection
       {
        Owner = "schema1",
        Name = "view1",
        LoadOrder = (int)StandardLoadOrder.HIGH,
        TableType = TableType.VIEW
       }
    }
};
_client.PutTaskTableSelection(tableSelectionDefinition, "server1", "task1");
```

Errors

All of the general errors as well as the errors listed in the table below.

Error responses

HTTP Code	Enterprise Manager Code	Text	Description
500	AEM_TASK_ NOT_FOUND	Replicate task {task} on server {server} could not be found.	The task name is unknown to Enterprise Manager.

3.19   GetTableStatuses

Retrieves the tables states of a specific Replicate task for all source tables that match the specified states, table schemas, and table names. This is useful for automation processes, for example, as it allows you to retrieve tables in a certain state (for example, suspended) and then perform an operation on them (for example, ReloadTable).

Required User Role: See *Required Enterprise Manager permissions (page 291)*.

Syntax

```
AemGetTableStatusesResp GetTableStatuses(
string server,
string task,
string schema = null,
string table = null,
bool includequeued = false,
bool includeloading = false,
bool includecompleted = false,
bool includechangeprocessing = false,
bool includeerror = false
)
```

Request parameters

Request parameters

Value	Type	Description
Server	string	The Replicate Server name as defined on Qlik Enterprise Manager. **Example:** myrepsrv1
Task	string	The Replicate task name.
Schema	string	The default is all source schemas. Specifying a specific schema name will retrieve all tables from the specified schema. Specifying a pattern will retrieve all tables from schemas that match the pattern. For example, specifying **ad%** will retrieve tables from the **adventure** and **adventuretwo** schemas.
		Schema names are case-sensitive.

Value	Type	Description
Table	string	The default is all source tables. Specifying a specific table name will retrieve the specified table. Specifying a pattern will retrieve all tables that match the pattern. For example, specifying **em%** will retrieve the **employees** and **employed** tables.Table names are case-sensitive.
IncludeQueued	boolean	Whether to retrieve tables in a queued state.
IncludeLoading	boolean	Whether to retrieve tables in a loading state.
IncludeCompleted	boolean	Whether to retrieve tables in a completed state.
IncludeChangeProcessing	boolean	Whether to retrieve tables in a Change Processing state (that is, tables that are having changes applied to them).
IncludeError	boolean	Whether to retrieve tables in an error state.

> ⚠ *While it is possible to set a table state parameter to "false", doing so will have no effect. Therefore, if you are only interested in specific states, set the desired states to "true" rather than setting the unwanted states to "false". For example, setting includecompleted=false and includechangeprocessing=false will not work as expected (all table states will be returned). However, setting includeloading=true, includeerror=true, and includequeued=true will return the desired states. Additionally, omitting the state parameters is the same as setting all parameters to "true" so if you want to see all states, simply omit the parameters.*

Return values

AemGetTableStatusesResp

General return values

Name	Type	Description
TableDetails	List	List of table statuses that matches the specified request parameters.
SchemaOnSource	string	Source schema name.
TableOnSource	string	Source table name.
SchemaOnTarget	string	Target schema name. If this information not available, an empty string will be returned.
TableOnTarget	string	Target table name. If this information not available, an empty string will be returned.
State	enum	An enum reflecting the table state. See *state (page 287)*.
DataErrorsCount	int64	The number of data errors encountered when replicating the table.

table_full_load_info return values

Name	Type	Description
StartTime	string	Date-time of when the table full load started. Timezone: UTC ; Style: ISO8601 (consistent with AemGetTaskDetails).
EndTime	string	Date-time of when the table full load started. Timezone: UTC ; Style: ISO8601 (consistent with AemGetTaskDetails).
EstimatedRowCount	int64	Relevant only for tables in certain states (loading/queued).
EstimatedEndTime	string	Relevant only for tables in certain states (loading/queued). Timezone: UTC ; Style: ISO8601 (consistent with AemGetTaskDetails). ℹ️ *EstimatedEndTime is always null. You can calculate the approximate end time using the following formula:* `EstimatedEndTime = start_time + EstimatedRowCount * (CurrentTime - StartTime)/TransferredRowCount`
TransferredRowCount	int64	The number of rows transferred to the target, after the source filtering, but before the target filtering.
TransferredVolumeMb	int64	The amount of bytes transferred to the target, after the source filtering, but before the target filtering.

TableCdcInfo return values

Name	Type	Description
InsertCount	int64	The number of records inserted into the target table.
UpdateCount	int64	The number of records updated in the target table.
DeleteCount	int64	The number of records deleted in the target table.
DdlCount	int64	The number of DDL operations performed on the target table.
LastUpdateTime	string	The last time that the table was updated on target. Timezone: UTC ; Style: ISO8601 (consistent with AemGetTaskDetails).
CachedInsertCount	int64	INSERT operations that were cached during Full Load.
CachedUpdateCount	int64	UPDATE operations that were cached during Full Load.
CachedDeleteCount	int64	DELETE operations that were cached during Full Load.

Errors

All of the general errors as well as the errors listed in the table below.

Error responses

Error	Message	Description
AEM_SERVER_ NOT_FOUND	Replicate server {server} could not be found.	Server name unknown to Qlik Enterprise Manager.
AEM_TASK_NOT_ FOUND	Replicate task {task} on server {server} could not be found.	The task name is unknown to Enterprise Manager.
AEM_TABLE_ STATUSES_ INNER_ERR	Failed to retrieve table statuses for replication task "{task}" on server "{server}". Error: "{message}"	Returned when the table statuses cannot be retrieved.

3.20 DeleteTask

Deletes the specified task. The task's logs will be deleted only if `deletetasklogs=true` is set.

Required User Role: See *Required Enterprise Manager permissions (page 291)*.

Syntax

```
public void DeleteTask(
string server,
string task,
bool deletetasklogs = false
);
```

Parameters

Parameters

Parameter	Type	Description
server	string	The server where the task is defined.
task	string	The task to be deleted.
deletetasklogs	bool	Whether to delete the task logs or not.

Errors

Error responses

Error	Message	Description
AEM_TASK_ NOT_FOUND	Replication task {task] on server {server} could not be found.	Returned if the task name is unknown to Qlik Enterprise Manager.
AEM_DELETE_ TASK_INNER_ ERR	Replication task {task] on server {server} could not be deleted due to an error.	Returned if Enterprise Manager encounters an error/exception when trying to delete the task.

Error	Message	Description
AEM_DELETE_ TASK_ERR	Replication task {task} on server {server} could not be deleted due to an error. {2}	Returned if Enterprise Manager encounters an error when trying to delete the task.
AEM_TASK_ NOT_ STOPPED	Replication task {task} on server {server} must be stopped before it can be deleted.	Returned if the replication task was running when `AemDeleteTask` attempted to delete it.

3.21   ExportTask

Export definitions from the selected task on the selected server. The definitions always include task settings, tables/table patterns (include/exclude), table settings and global transformations. The endpoint definition is only exported along with the task definition if with endpoints=true is set.

Required User Role: See *Required Enterprise Manager permissions (page 291)*.

Syntax

```
public string ExportTask(
string server,
string task,
bool withendpoints = false
);
```

Parameters

Parameters

Parameter	Type	Description
server	string	The name of the server on which the task is defined.
task	string	The task to be exported.
withendpoints	bool	Whether or not to export the endpoint definitions as well.

Return values

Exported task JSON file as a string

Errors

Error responses

Error	Message	Description
AEM_METHOD_ NOT_ SUPPORTED_ VERSION	AemExportTask is only supported on Replicate 5.5 or above.	AemExportTask is only supported on Replicate 5.5 or above.

Error	Message	Description
AEM_EXPORT_ TASK_NO_ PERMISSION_ ON_ENDPOINT	Failed to export task {task} from Replicate server {server} as the logged in user does not have permission to access one or both of the task's endpoints.	Export all cannot be carried out because the user does not have permissions on one or more endpoints.

3.22   ImportTask

Import a single task's JSON definitions provided in the request body into the requested server repository on the selected server.

The ImportTask method enables importing all valid JSON definitions provided in the request body.

This includes task settings, tables/table patterns (include/exclude), table settings and global transformations.

Information about endpoints is included if it was included in the JSON file.

When you import a task, Items that existed in the target server before the import and have no new JSON definition in the request body are not modified and not removed. This means that ImportTask provides no way of removing old definitions that are no longer needed.

Required User Role: See *Required Enterprise Manager permissions (page 291)*.

Syntax

```
public void ImportTask(
string payload,
string server,
string task
);
```

Parameters

Parameters

Parameter	Type	Description
payload	string	A JSON document to import.
server	string	The name of the server to import to.
task	string	Name of the task to import.

Return values

N/A

Errors

Error responses

Error	Message	Description
AEM_IMPORT_ TASK_NO_ PERMISSION_ ON_ENDPOINT	Failed to import task {task} to replication server {server} as the logged in user does not have permission to add or modify endpoints.	The task cannot be imported because it includes endpoint definitions, and the user does not have permissions to insert endpoints.
AEM_IMPORT_ TASK_ CONTAIN_ ALIEN_ITEMS	Failed to import task {task} to replication server {server} as the JSON file contains unsupported objects.	The task cannot be imported because the stream contains items that cannot be imported (such as remote machines).
AEM_IMPORT_ TASK_NAME_ DIFFER	Failed to import task {task} to replication server {server} as the JSON file contains conflicting tasks.	The task cannot be imported because the stream contains conflicting tasks.
AEM_IMPORT_ TASK_ CONTAINS_ MULTIPLE_ TASKS	Failed to import task to replication server {server} as the JSON file contains multiple tasks. To import multiple tasks, use AemImportAll instead.	The task cannot be imported since the stream contains multiple tasks, and the method can only import a single task.
AEM_TASK_ NOT_ IMPORTABLE	Failed to import task {task} as the task is running on server {server}. Stop the task and then try again.	Occurs when trying to import a running task.
AEM_IMPORT_ TASK_ CONTENT_ EMPTY	Failed to import task {task} to replication server {server} as the JSON file is empty.	The task cannot be imported as the specified JSON file is empty.
AEM_IMPORT_ TASK_ ENDPOINT_ DIFFER	Failed to import task {task} to server {server} as the endpoint names in the JSON file's "task" and "databases" sections are not the same.	The task cannot be imported as the endpoint names in the specified JSON file's "task" and "databases" sections are different.
AEM_IMPORT_ TASK_NO_ ENDPOINT_IN_ SERVER	Failed to import task {task} to replication server {server} as the {role} endpoint {endpoint} does not exist on the target server.	The task cannot be imported as one of the endpoints specified in the exported JSON file does not exist on the target server.
AEM_IMPORT_ TASK_CANNOT_ OVERRIDE_ TASK	Replicate (server '{0}') import unable to delete task. Error message '{2}	The task cannot be imported since the task that it was supposed to override cannot be deleted.

3.23   CloneTask

Clones the definitions of the specified task on the specified server. The definitions include the task settings, tables/table patterns (include/exclude), table settings, and global transformations. The endpoint definitions are cloned with the task definition.

> • *You cannot override an existing task with the same name*
> • *The task being cloned must have a source and target endpoint*

Required user role

Operator or above on Qlik Enterprise Manager.

Syntax

```
public void CloneTask(
AemCloneTaskReq payload,
string server,
string task
);
```

Syntax Parameters

Parameters

Parameter	Type	Description
payload	AemCloneTaskReq	The definitions to clone. All definitions are optional except the task name.
server	string	The Replicate Server name as defined in Qlik Enterprise Manager. **Example:** myrepsrv1
task	string	The name of the Replicate task to clone.

Payload parameters

Payload parameters

Name	Required	Description
NewTaskName	Yes	The new name of the task after it has been cloned.
ClonePermissions	No	Stipulates whether to clone the task permissions. The value can be true of false. The default is false, meaning that if this parameter is omitted, the permissions will not be cloned.

Name	Required	Description
NewSourceEndpoint	No	The display name of the source endpoint. The display name must already exist on the Replicate Server. ⓘ *The display name must be of an endpoint of the same type used in the task being cloned. For example, if the source endpoint in the task being cloned is of type Oracle, you cannot specify MyNewSource if it is the display name of a Microsoft SQL Server endpoint.*
NewTargetEndpoint	No	The display name of the target endpoint. The display name must already exist on the Replicate Server. ⓘ *The display name must be of an endpoint of the same type used in the task being cloned. For example, if the target endpoint in the task being cloned is of type Oracle, you cannot specify MyNewTarget if it is the display name of a Microsoft SQL Server endpoint.*
NewControlSchema	No	The new name of the schema in which to create the control tables.
NewTargetSchema	No	The new name of the schema in which to create the target tables.
NewControlTableTablespace	No	The new name of the tablespace in which to create the control tables. ⓘ *Relevant when replicating to an Oracle target only.*

Name	Required	Description
NewControlIndexTablespace	No	The new name of the tablespace in which to create the control table indexes. ℹ️ *Relevant when replicating to an Oracle target only.*

Example

When the following method is run, `my-task` will be cloned on Replicate server `myreplicateserver` to a new task called `my-task-clone`, but will be configured with a different target endpoint that has `different-target-endpoint` as its display name.

```
var cloneTaskReq = new AemCloneTaskReq()
{
NewTaskName = "my-task-clone",
NewTargetEndpoint = "different-target-endpoint"
};
_client.CloneTask(cloneTaskReq, "myreplicateserver", "my-task");
```

3.24   ExportAuditTrail

Export audit trail data from all servers.

Required User Role: See *Required Enterprise Manager permissions (page 291)*.

Syntax

```
public string ExportAuditTrail(
string startTimestamp,
string endTimestamp
);
```

Parameters

Parameters

Parameter	Type	Description
start_timestamp	string	start timestamp: (UTC format or Ticks) Example: 2020-06-30T16:15:00Z (UTC format) Example: 637410358250082194 (Ticks)

Parameter	Type	Description
end_timestamp	string	end timestamp: (UTC format or Ticks) Example: 2020-06-30T16:15:00Z (UTC format) Example: 637410358250082194 (Ticks) null : latest audit trail record

Return values

JSON File (stream)

Errors

Error responses

Error	Message	Description
AEM_INVALID_ TIMESTAMP_ FORMAT	Timestamp is not a timestamp. Timestamp format should be 'yyyy'-'MM'-'dd'T'HH':'mm':'ss'Z or Ticks.	Timestamp is not valid.
AEM_EXPORT_ INNER_ERR	Failed to export audit trail. AUDIT-E-INVRANGE. The end time is before the start time.	Time range is not valid.
UNAUTHORIZED_ REQUEST	Unauthorized Request. request: AemExportAuditTrail	User does not have permission to access the audit trail information.

3.25   RunTask

Run the selected task according to the specified option.

Required User Role: See *Required Enterprise Manager permissions (page 291)*.

Syntax

```
public AemRunTaskResp RunTask(
AemRunTaskReq payload,
string server,
string task,
AemRunTaskOptions option = AemRunTaskOptions.Option,
int timeout = 30
);
```

Parameters

Parameters

Parameter	Type	Description
payload	AemRunTaskReq	-
Cdcposition	string	The `cdcposition` parameter can either be specified inline or in an external JSON file. The format for both is described in *Request body format (page 190)* below. Mandatory for all AemRunTask options.
server	string	The name of the server on which to run the task.
task	string	• **Replicate:** - The name of the task. • **Compose:** - The name of the task or workflow appended with a double underscore and the project name. **Example:** `mytask__myproject`

option	AemRunTaskOptions
	
	`{`
	`RESUME_PROCESSING = 1,`
	`RELOAD_TARGET = 2,`
	`RESUME_PROCESSING_FROM_TIMESTAMP`
	`= 3,`
	`METADATA_ONLY_RECREATE_ALL_TABLES`
	`= 4,`
	`METADATA_ONLY_CREATE_MISSING_`
	`TABLES = 5,`
	`RECOVER_USING_LOCALLY_STORED_`
	`CHECKPOINT = 6,`
	`RECOVER_USING_CHECKPOINT_STORED_`
	`ON_TARGET = 7`
	`RESUME_PROCESSING_FROM_POSITION =`
	`8`
	`}`
	See also Run options.
		For Replicate tasks, all options are supported.
		
		For Compose tasks, specify `AemRunTaskOptions.RESUME_ PROCESSING` to run the task.

timeout	int	The time in seconds to wait for a response.

Request body format

RESUME_PROCESSING_FROM_TIMESTAMP

If the task option is RESUME_PROCESSING_FROM_TIMESTAMP, then the format should be:

JSON File Format:

`{"cdcposition":"`*`timestamp`*`"}`

Example:

`{"cdcposition":"2017-03-07T11:19:03"}`

Inline Format:

`"{\"cdcposition\":\"`*`timestamp`*`\"}"`

Example:

`"{\"cdcposition\":\"2017-03-07T11:19:03\"}"`

RESUME_PROCESSING_FROM_POSITION

If the task option is RESUME_PROCESSING_FROM_POSITION then, assuming the source database is SQL Server, the format should be:

JSON File Format:

`{"cdcposition":"`*`LSN`*`"}`

Example:

`{"cdcposition":"15000000040000037"}`

Inline Format:

`"{\"cdcposition\":\"`*`LSN`*`\"}"`

Example:

`"{\"cdcposition\":\"15000000040000037\"}"`

RECOVER_USING_CHECKPOINT_STORED_ON_TARGET

If the task option is RECOVER_USING_CHECKPOINT_STORED_ON_TARGET, then the format should be:

JSON File Format:

`{"cdcposition":"`*`target_checkpoint`*`"}`

Example:

`{"cdcposition":"Checkpoint:V1#1#timestamp:2017-02-14T12:34:44#0#0#*#0#0"}`

Inline Format:

```
"{\"cdcposition\":\"target_checkpoint\"}"
```

Example:

```
"{\"cdcposition\":\"Checkpoint:V1#1#timestamp:2017-02-14T12:34:44#0#0#*#0#0\"}"
```

Return value

AemRunTaskResp

Return value parameters

Parameter	Type	Description
ErrorMessage	string	The description of the error.

State	AemTaskState
	
	{
	
	STOPPED = 0, RUNNING = 1,
	
	ERROR = 2,
	
	RECOVERY = 3
	
	}
		The current state of the task.

Errors

Error responses

Error	Message	Description
AEM_TASK_ ALREADY_ RUNNING	Replicate task {task} on server {server} is already running.	The task cannot be run because it is already running.
AEM_TASK_IN_ RECOVERY	Replicate task {task} on server {server} cannot be run as it is in a recovery state.	The task cannot be run because it is in Recovery state.
AEM_WRONG_ OPTION_FOR_ CDCPOSITION	Replicate task {task] on server {server} cannot be run with cdcposition {position} and option {option}. Change the option to RESUME_PROCESSING_ FROM_TIMESTAMP, RESUME_PROCESSING_ FROM_POSITION, or RECOVER_USING_ CHECKPOINT_STORED_ON_TARGET	This error is returned when the specified option conflicts with the setting in the **Advanced Run Options** dialog in Replicate.

Error	Message	Description
AEM_CDC_ POSITION_ERR_ FORMAT	The cdcposition parameter value for Replicate task {task} on server {server} is not in the correct format ('YYYY-MM-DDThh:mm:ssZ').	The cdcPosition parameter must follow this format: YYYY-MM-DDThh:mm:ssZ Parameters: task name and server name
AEM_RUN_ TASK_TIMEOUT	Replicate task {task} on server {server} timed out when requested to "Run".	The task does not assume a Running state or any other steady state (error o stopped).
AEM_RUN_ TASK_INNER_ ERR	Replicate task {task} on server {server} encountered an error when requested to run.	Replicate experienced an error/exception when trying to run the task.
AEM_RUN_ TASK_NO_SRC_ NO_TRG	Replicate task {task} on server {server} has no source or target endpoints.	Task validation revealed that the task is missing a source and a target.
AEM_RUN_ TASK_NO_SRC	Replicate task {task} on server {server} has no source endpoint.	Task validation revealed that the task is missing a source.
AEM_RUN_ TASK_TRG	Replicate task {task} on server {server} has no target endpoint.	Task validation revealed that the task is missing a target
AEM_RUN_ TASK_NOT_FL_ NOR_CDC	Replicate task {task} on server {server} cannot be run without at least one of the replication options enabled (Full Load, Apply Changes, or Store Changes).	Task validation of a unidirectional task revealed that the replication option definition for the task is missing (Full Load, Apply Changes, or Store Changes).
AEM_RUN_BIDI_ TASK_NO_FL_ NOR_CDC	Replicate task {task} on server {server} cannot be run without at least one of the replication options enabled (Full Load or Apply Changes).	Task validation of a unidirectional task revealed that the replication option definition for the task is missing (Full Load, Apply Changes, or Store Changes).

3.26   StopTask

Stop the selected task.

Required User Role: See *Required Enterprise Manager permissions (page 291)*.

Syntax

```
public AemStopTaskResp StopTask(
string server,
string task,
int timeout = 30
);
```

Parameters

Parameters

Parameter	Type	Description
server	string	The name of the server.
task	string	• **Replicate:** - The name of the task. • **Compose:** - The name of the task or workflow appended with a double underscore and the project name. **Example:** `mytask__myproject`
timeout	int	Time in seconds to wait until getting a response.

Return values

AemStopTaskResp

Return values

Parameter	Type	Description

State	AemTaskState
	
	{
	
	STOPPED = 0,
	
	RUNNING = 1,
	
	ERROR = 2,
	
	RECOVERY = 3
	
	}
		The current state of the task.

ErrorMessage	string	The description of the error.

Errors

Error responses

Error	Message	Description
AEM_TASK_ ALREADY_STOPPED	Replicate task {task} on server {server} is already stopped.	Cannot stop a task that is in Stopped state.
AEM_STOP_TASK_ INNER_ERR	Failed to stop Replicate task {0} on server {1}: <{2}>	An error occurred while trying to stop the task.
AEM_STOP_TASK_ TIMEOUT	A timeout occurred when trying to stop Replicate task {0} on server {1}	A timeout occurred while trying to stop the task.

3.27   GetEndpointList

Retrieves a list of endpoints and their properties for the specified server.

Required User Role: See *Required Enterprise Manager permissions (page 291)*.

Syntax

```
public AemGetEndpointListResp GetEndpointList(
string server
);
```

Parameters

Parameters

Parameter	Type	Description
server	string	The name of the server on which the endpoints are defined.

Return values

AemGetEndpointListResp

Return values

Parameter	Type	Description
EndpointList	List<Endpoint>	An array of Endpoint objects.
Description	string	The endpoint description
IsLicensed	bool	Indicates whether the endpoint is licensed on this server.
Name	string	The endpoint name.

Parameter	Type	Description

Role	EndpointRole
	
	{
	
	ALL = 0,
	
	SOURCE = 1,
	
	TARGET = 2,
	
	BOTH = 3
	
	}
		The endpoint role: SOURCE or TARGET.

Type	string	The endpoint type - for example, Oracle.

Errors

Error responses

Error	Message	Description
AEM_ENDPOINT_ LIST_INNER_ERR	Failed to retrieve endpoints list from Replicate server {name}.	Replicate experienced an error/exception when trying to retrieve the endpoint list.

3.28   PatchEndpoint

Updates an existing endpoint's settings.

Required User Role: See *Required Enterprise Manager permissions (page 291)*.

Limitations

- The `/db_settings/`**`$type`** setting (or `/db_settings/connectioninfo/`**`$type`** setting for Java-based endpoints) cannot be updated. Java-based endpoints are as follows: Salesforce (Incremental Load), Salesforce (Streaming CDC), MongoDB, and SAP Extractor.
- If a task which uses the endpoint is currently running, changing the endpoint setting will only take effect after the task is restarted

Syntax

```
public void PatchEndpoint(string payload, string server, string endpoint);
```

Parameters

Parameters

Parameter	Type	Description
payload	string	The operation to execute and the field on which to execute the operation (sent as a JSON file). Supported operations are 'add','replace','remove', or 'test'. For an explanation of how to find the relevant endpoint setting, see PatchEndpoint. **ℹ** • 'move' and 'copy' operations are not supported. • The 'add' operation replaces an existing field or adds a new one, if it does not exist.
server	string	The Replicate server name as defined in Enterprise Manager. **Example:** myrepsrv1
endpoint	string	The endpoint display (logical) name. **Example:** my_s3_endpoint

Patch Payload Example

```
[

 { "op":"replace", "path":"/db_settings/bucketName",

"value":"my_new_bucket" }

]
```

Errors

All of the general errors as well as the errors listed in the table below.

Error responses

HTTP Code	Enterprise Manager Code	Text	Description
500	AEM_PATCH_ ENDPOINT_ INNER_ERR	Failed to patch replication endpoint {endpoint} from server {server}.	Replicate experienced an error/exception when trying to patch the specified endpoint.
500	AEM_ ENDPOINT_ NOT_FOUND	Replication endpoint {endpoint} on server {server} could not be found.	Returned if Qlik Enterprise Manager cannot find the endpoint to patch.

3.29   DeleteEndpoint

Description

Deletes the specified endpoint. Note that an endpoint can only be deleted if it is not in use by any task.

Required User Role: See *Required Enterprise Manager permissions (page 291)*.

Syntax

```
public void DeleteEndpoint(
string server,
string endpoint
);
```

Parameters

Parameters

Parameter	Type	Description
server	-	The server where the endpoint is defined.
endpoint	-	The name of the endpoint to be deleted.

Return values

N/A

Errors

Error responses

Error	Message	Description
AEM_ ENDPOINT_ NOT_FOUND	Replicate endpoint {endpoint} on server {server} could not be found.	Endpoint name unknown to Qlik Enterprise Manager.
AEM_DELETE_ ENDPOINT_ INNER_ERR	Failed to delete Replicate endpoint {endpoint} from server {server}.	Replicate encountered an error/exception when trying to delete the endpoint.
AEM_ ENDPOINT_ IS_IN_USE	Replicate endpoint {endpoint} on server {server} cannot be deleted as it is currently in use by one or more tasks.	The Replicate endpoint must be removed from its associated tasks before it can be deleted.

3.30   ReconfigureEndpointNoWait

Call this method to override the source endpoint settings with settings from another endpoint *of the same type.* This method also supports automatically stopping and then resuming all tasks that are using the source endpoint (which is required for unplanned switchovers).

> ⓘ • *Supported with the Oracle source endpoint only.*
>
>   • *Using this method, requires you to set up relevant Qlik Replicate task(s) with three separate source endpoints - two inactive source endpoints defined with the primary and secondary database connection settings, and one active source endpoint (initially defined with the primary database connection settings).*
>   *For detailed instructions, see Reconfiguring endpoints (page 289).*

Required User Role: See *Required Enterprise Manager permissions (page 291)*.

Syntax

```
public void ReconfigureEndpointNoWait(
string server,
string endpoint,
string configuration = null,
bool recycle = true
);
```

Parameters

Parameters

Parameter	Type	Description
server	string	The name of the Replicate server (as defined in Qlik Enterprise Manager) on which the task(s) are running.
endpoint	string	The name of the source endpoint defined for the Replicate task(s).
configuration	string	The name of the secondary endpoint (or the primary endpoint when reverting the settings).
recycle	bool	Whether to stop and resume the Replicate task(s) automatically. The default is "true", that is, when an unanticipated switchover occurs, tasks using the source endpoint will be automatically stopped and then resumed after the source endpoint is updated with the settings from the secondary endpoint.

Set to "false" for planned switchovers (such as migrating to a production database or switching back to the primary database). |

Return values

N/A

Errors

All of the general errors as well as the errors listed in the table below.

Error responses

Error	Message	Description
AEM_ENDPOINT_ NOT_FOUND	Replicate endpoint "{endpoint}" on server "{server}" could not be found.	The specified endpoint could not be found.
AEM_ RECONFIGURE_ ENDPOINT_ INNER_ERR	Failed to reconfigure endpoint " {endpoint}" on server "{server}". Error: "{message}"	Qlik Enterprise Manager failed to reconfigure the endpoint with the settings of the secondary endpoint.

3.31   ExportAll

Export all definitions from the requested server repository on the selected server (server settings, tasks, endpoints, and so on). The definitions are exported to a JSON file.

Required User Role: See *Required Enterprise Manager permissions (page 291)*.

Syntax

```
public string ExportAll(
string server
);
```

Parameters

Parameters

Parameter	Type	Description
server	string	The name of the server containing the repository to be exported.

Return values

Export JSON file as a string.

Errors

Error responses

Error	Message	Description
AEM_METHOD_ NOT_ SUPPORTED_ VERSION	AemExportAll is only supported on Replicate 5.5 or above.	The method requires Replicate 5.5 or above.
AEM_EXPORT_ NO_ PERMISSION_ ON_TASK	Failed to export all tasks from Replicate server {server} as the logged in user does not have permission to export one or more of the defined tasks.	Export all cannot be carried out because the user does not have permissions on one or more tasks.

Error	Message	Description
AEM_EXPORT_ NO_ PERMISSION_ ON_ENDPOINT	Failed to export all tasks from server {server} as the logged in user does not have permission to export one or more of the defined endpoints.	Export all cannot be carried out because the user does not have permissions on one or more endpoints.

3.32   ImportAll

Import the JSON definitions provided in the request body into the requested server repository on the selected server. The ApiImportAll method uses "merge" semantics. In particular: All valid JSON definitions provided in the request body will be imported.

This includes server settings, task settings, endpoints, and other definitions.

Items that existed in the target server before the import and have no new JSON definition in the request body will not be modified and in particular will not be removed. This means that ApiImportAll provides no way of removing old definitions that are no longer needed.

Required User Role: See *Required Enterprise Manager permissions (page 291)*.

Syntax

```
public void ImportAll(
string payload,
string server
);
```

Parameters

Parameters

Parameter	Type	Description
payload	string	A JSON document to import.
server	string	The name of the server to import to.

Return values

N/A

Errors

Error responses

Error	Message	Description
AEM_METHOD_ NOT_ SUPPORTED_ VERSION	AemImportAll is only supported on Replicate 5.2 or above.	The method requires Replicate 5.2 or above.

Error	Message	Description
AEM_IMPORT_ NO_ PERMISSION_ ON_TASK	Failed to import all tasks to replication server {server} as the logged in user does not have permission to add tasks.	Stream cannot be imported because the user does not have the permissions to add tasks.
AEM_IMPORT_ NO_ PERMISSION_ ON_ENDPOINT	Failed to import all tasks to replication server {server} as the logged in user does not have permission to add endpoints.	Stream cannot be imported because the user does not have the permissions to add endpoints
AEM_IMPORT_ CONTENT_ EMPTY	Failed to import all tasks to replication server {server} as the JSON file is empty.	Stream cannot be imported because it contains no content.
AEM_IMPORT_ INVALID_ CONTENT	Failed to import all tasks to replication server {server} as the JSON file contains invalid content.	Stream cannot be imported because it contains invalid content.

3.33   ReloadTable

Reload a specific table.

Required User Role: See *Required Enterprise Manager permissions (page 291)*.

Syntax

```
public void ReloadTable(
string server,
string task,
string schema = null,
string table = null
);
```

Parameters

Parameters

Parameter	Type	Description
server	string	The name of the server.
task	string	The name of the task.
schema	string	The name of the table schema to reload.
table	string	The name of the table to reload.

Return values

N/A

Errors

Error responses

Error	Message	Description
AEM_INVALID_TASK_NOT_FL	Failed to reload table {table} as Full Load is not enabled for task {task}.	The table could not be reloaded because the task's Full Load replication option is not enabled.
AEM_INVALID_TASK_NT_NTSUPPEP	Failed to reload table as this operation is not supported with the File Channel source endpoint.	The table could not be reloaded because the task's source endpoint is File Channel.
AEM_RELOAD_TABLE_ERR	Failed to reload table {schema}.{table} for replication task {task} on server {server}: {message}	An error was encountered while trying to reload the specified table.

3.34   ResumeTable

A table that was suspended due to errors can be unsuspended once the errors are resolved.

> *Tables in a Full Load and Apply Changes task that were suspended during the Full Load stage cannot be unsuspended. Such tables need to be reloaded instead.*

Required User Role: See *Required Enterprise Manager permissions (page 291)*.

Syntax

```
public void ResumeTable(
string server,
string task,
string schema = null,
string table = null
);
```

Parameters

Parameters

Parameter	Type	Description
server	string	The name of the server.
task	string	The name of the task.
schema	string	The name of the table schema to unsuspend.
table	string	The name of the table to unsuspend.

Return values

N/A

Errors

Error responses

Error	Message	Description
AEM_INVALID_ TASK_NT_ NTSUPPEP	Failed to unsuspend table as this operation is not supported with the File Channel source endpoint.	The table could not be unsuspended because the task's source endpoint is File Channel.
AEM_ UNSUSPEND_ TABLE_ERR	Failed to unsuspend table {schema}. {table} for replication task {task} on server {server}: {message}	An error was encountered while trying to unsuspend the specified table.

3.35   TestEndpoint

Connect to an endpoint to test connectivity and configuration (permissions, CDC configuration, and so on).

Required User Role: See *Required Enterprise Manager permissions (page 291)*.

Syntax

```
public AemTestEndpointResp TestEndpoint(
string server,
string endpoint,
int timeout = 60
);
```

Parameters

Parameters

Parameter	Type	Description
server	string	The name of the server on which the endpoint is defined.
endpoint	string	The name of the endpoint.
timeout	int	Time in seconds to wait until getting a response.

Return values

AemTestEndpointResp

Return values

Parameter	Type	Description

Status	AemEndpointState
	
	{
	
	UNKNOWN = 0,
	
	CONNECTED = 1,
	
	ERROR = 2
	
	}
		-

Message	string	Short description of the error.
DetailedMessage	string	Detailed description of the error.

Errors

Error responses

Error	Message	Description
AEM_TEST_ ENDPOINT_ CONNECTION_ TIMEOUT	A timeout occurred while testing the connection for endpoint {endpoint} on Replicate server {server}.	Connection was not established within 60 seconds.
AEM_ENDPOINT_NOT_ FOUND	Replicate endpoint {0} on server {1} could not be found.	The specified endpoint could not be found.

3.36   DeleteOldChangeData

The method can be called on an ad-hoc basis to delete processed Change Data Partitions created on the target database by a Replicate task.

> - *Partitions will only be deleted if the **Change Data Partitioning** and **Partition Retention** options are enabled in the Replicate console.*
>   *For more information, refer to the Qlik Replicate Setup and User Guide.*
> - *Partitions will only be deleted if the task is running. If the task is not running, the partitions will be deleted the next time the task runs.*
> - *Only partitions that are not locked by a consuming application will be deleted.*

Required User Role: See *Required Enterprise Manager permissions (page 291)*.

Syntax

```
public void DeleteOldChangeData(
AemDeleteOldChangeDataReq payload,
string server,
```

```
string task
);
```

Parameters

Parameters

Parameter	Type	Description
AemDeleteOldChangeDataReq	payload	The point in time after which partitions can be deleted, which can either be specified as a timestamp or as an offset. If a retention barrier is set, partitions will be deleted up to the retention barrier date, regardless of the specified timestamp/offset. **Timestamp Format:** [Date] (yyyy'-'MM'-'dd'T'HH':'mm':'ss'Z') **Example:** 2020-06-30T16:15:00Z **Offset Format :** [Period] Format ISO 8601 duration **Example:** P1M3DT1H2M
server	string	The name of the server on which the task is running.
task	string	The name of the task.

Error response

Error responses

Message	Text	Description
AEM_TASK_NOT_FOUND	Replication task {task} on server {server} could not be found.	Returned when an unknown task name is encountered.

Message	Text	Description
AEM_INVALID_ TIMESTAMP_ OR_OFFSET_ FORMAT	The specified deletion age does not conform to the expected timestamp or offset format. Timestamp format should be yyyy'-'MM'-'dd'T'HH':'mm':'ss'Z'. Offset format should conform to ISO 8601 duration.	Returned when the specified deletion age does not conform to the expected timestamp or offset format.
AEM_DELETE_ OLD_CHANGE_ DATA_INNER_ ERR	Failed to request deletion of old change data for task {task} on server {server}. Message: {error_message}	Returned when an error is encountered during partition deletion.

3.37   SetChangeDataRetentionBarrier

The method can be used to:

- Set a retention barrier for deleting consumed partitions. Setting a retention barrier will initiate periodic deletion of consumed Change Data Partitions from the target database defined for the specified task. Partitions will be deleted according to the **Allow consuming applications to delete partitions every** interval set on Replicate Server, and up to the specified "retention_point".
- Remove the retention barrier, thereby stopping periodic deletion of consumed Change Data Partitions.

> - *Partitions will only be deleted if the **Change Data Partitioning** and **Partition Retention** options are enabled in the Replicate console.*
> - *Partitions will only be deleted if the task is running. If the task is not running, the partitions will be deleted the next time it runs.*
> - *Only partitions that are not locked by a consuming application will be deleted.*

Required User Role: See *Required Enterprise Manager permissions (page 291)*.

Syntax

```
public void SetChangeDataRetentionBarrier(
AemSetChangeDataRetentionBarrierReq payload,
string server,
string task
);
```

Parameters

Parameters

Parameter	Type	Description
payload	AemSetChangeDataRetentionBarrierReq	**Payload for Setting a Retention Barrier:** retention_point=*timestamp* application=*application_name* Where: • *timestamp* is the date up to which partitions can be deleted. The timestamp must be in the following format: (yyyy'-'MM'-'dd'T'HH':'mm':'ss'Z'). • *application_name* is the name of the consuming application. **Example:** retention_point=2020-06-30T16:15:00Z application=Compose **Payload for Removing the Retention Barrier:** retention_point= application=*application_name* Where *application_name* is the name of the consuming application.
server	string	The name of the server on which the task is running.
task	string	The name of the task.

Error response

Error responses

Error	Message	Description
AEM_TASK_NOT_FOUND	Replication task {task} on server {server} could not be found.	Returned when an unknown task name is encountered.

Error	Message	Description
AEM_INVALID_ TIMESTAMP_ FORMAT	The specified partition retention barrier does not conform to the expected timestamp format. Timestamp format should be yyyy'-'MM'-'dd'T'HH':'mm':'ss'Z'.	Returned when the specified partition retention barrier does not conform to the expected timestamp format.
AEM_SET_ CHANGE_DATA_ RETENTION_ BARRIER_INNER_ ERR	Failed to set change data retention barrier for task {task} on server {server}.\n\nMessage: {error_message}	Returned when an error is encountered when trying to set the retention barrier.

3.38   GetChangeDataRetentionBarrier

Returns the date of the earliest partition retention barrier when multiple partition retention barriers have been set.

When different retention barriers have been set by multiple consuming applications, Replicate will delete old Change Data partitions up to the earliest partition retention barrier.

For information on setting a partition retention barrier, see *SetChangeDataRetentionBarrier (page 207)*.

Required User Role: See *Required Enterprise Manager permissions (page 291)*.

Syntax

```
public AemGetChangeDataRetentionBarrierResp GetChangeDataRetentionBarrier(
string server,
string task
);
```

Parameters

Parameters

Parameter	Type	Description
server	string	The name of the server on which the task is running.
task	string	The name of the task.

Response

Response parameters

Name	Type	Description
application	string	The name of the consuming application that set the earliest partition retention barrier.
retention_ point	datetime\n\nFormat: yyyy'-'MM'-'dd'T'HH':'mm':'ss'Z'	The date of the earliest partition retention barrier.

Error response

Error responses

Error	Message	Description
AEM_TASK_NOT_FOUND	Replication task {task} on server {server} could not be found.	Returned when an unknown task name is encountered.
AEM_GET_CHANGE_ DATA_RETENTION_ BARRIER_INNER_ERR	Failed to get change data retention barrier for task {task} on server {server}. Message: {error_message}	Returned when an error is encountered while attempting to get the earliest partition retention barrier.

3.39   Parameters

The following table lists all parameters used in the response body, along with their values.

Parameters

Parameter Name	Value / Description
Server State	• **MONITORED**: The server is being monitored, the Qlik Enterprise Manager is connected and synchronized successfully. • **ERROR**: Qlik Enterprise Manager fails to connect and monitor the server. • **NOT_MONITORED**: The server is not being monitored.
Server Platform	• **WINDOWS** • **LINUX**
License State	• **LICENSE_VALID** • **LICENSE_INVALID_CHECKSUM** • **LICENSE_EXPIRED NO_LICENSE** • **MACHINE_NOT_LICENSED** • **INVALID_LICENSE**
Endpoint Role	Specifies whether an endpoint is being used as a source or a target in a Replicate task. • **SOURCE** • **TARGET**

Parameter Name	Value / Description
Task State	• **RUNNING**: The task is running. • **STOPPED**: The task has not been run yet or has stopped running at some point during the replication. • **ERROR**: The task has stopped due to a fatal error. • **RECOVERING**: The task has detected an error and is trying to recover. After a limited number of attempts, the task either recovers and the state returns to **RUNNING**, or the task fails and the state turns to **ERROR**.
Task options	• **full_load_enabled [bool]**: Creates all files or tables at the target endpoint, automatically defines the metadata that is required at the target, and populates the tables with data from the source. • **apply_changes_enabled [bool]**: Updates all changes made to files and tables that were created during the full load. Applied changes include inserts, updates, and removal of items. • **store_changes_enabled [bool]**: Stores changes in Change tables. This value and the audit_changes_enabled value are mutually exclusive. • **audit_changes_enabled [bool]**: Stores changes in a single audit table. This value and the store_changes_enabled_value are mutually exclusive.
Task Stop reason	• **NONE**: Indicates that a task is running and no Stop reason is prevalent. • **NORMAL**: Indicates that the task was stopped by the user. • **RECOVERABLE_ERROR**: Indicates that the task is still active, but that there is a temporary problem, such as a missing connection. As soon as the error state is resolved, Replicate restarts the task. • **FATAL ERROR**: Indicates that the task stopped and the error must be resolved manually. The task cannot be started again until the error has been resolved. • **FULL_LOAD_ONLY_FINISHED**: Indicates that the task only finished full load. • **STOPPED_AFTER_FULL_LOAD**: Indicates that the task stopped after full load. Cached changes may or may not have been applied. • **STOPPED_AFTER_CACHED_EVENTS**: Indicates that the task stopped after cached changes were applied. • **EXPRESS_LICENSE_LIMITS_REACHED**: The task definition includes actions that are not included with Express license privileges. • **STOPPED AFTER_DDL_APPLY**: Indicates that the task stopped after DDL statements were applied. • **STOPPED_LOW_MEMORY**: Indicates that the task stopped due to low memory. • **STOPPED_LOW_DISK**: Indicates that the task stopped due to low disk space.

Parameter Name	Value / Description
Source/target status	• **RUNNING**: The endpoint is running. • **ERROR**: File channel only. Cannot send files to another endpoint. Indicated by an asterisk (*) in the user interface. • **DISCONNECTED**: Information that is provided by all targets and Oracle sources that cannot establish a successful connection. Other sources stop the task. Indicated by an asterisk (*) in the user interface. • **WARNING**: The target is applying changes one by one instead of bulk to find the problem. Indicatedby an asterisk (*) in the user interface.
Profile	• **Unidirectional**: A Replicate task that replicates from a source endpoint to a target endpoint. • **Bidirectional**: A Replicate task that replicates changes from the source to the target, and vice versa. • **Log Stream**: A Replicate task that captures changes from a single source and stores them on Replicate Server for replication to one or more targets. • **Data Storage:** A data storage task in a Compose Data Lake project. • **Data Warehouse:** A data warehouse task in a Compose Data Warehouse project. • **Data Mart:** A data mart task in a Compose Data Warehouse project. • **Compactor:** A Compose system task that merges the changes (i.e. history) from the **delta_hds** folder with the **hds** folder and then deletes the **delta_hds** folder. • **Workflow:** A workflow task in Compose.
Source type	Source and target endpoint types should be specified in the same format that they appear in the **Type** drop-down list (when adding a new endpoint in Enterprise Manager). For information on how to add an endpoint in Enterprise Manager, refer to the *Enterprise Manager* Setup and User Guide.
Target type	-

Parameter Name	Value / Description
Run options	• **RESUME_PROCESSING**: Resumes task execution from the point that it was stopped. • **RELOAD_TARGET**: Re-starts the full-load replication process if the task was previously run. • **RESUME_PROCESSING_FROM_TIMESTAMP**: Starts the CDC replication task from a specific point. • **RESUME_PROCESSING_FROM_POSITION**: The position in the log (e.g. SCN or LSN) from where to resume change processing. The source change position format differs according to your source endpoint. • **RECOVER_USING_LOCALLY_STORED_CHECKPOINT**: Recovers a task using the recovery state stored locally in the task folder (located under the Data folder). • **RECOVER_USING_CHECKPOINT_STORED_ON_TARGET**: Recovers a task using the CHECKPOINT value from the `attrep_txn_state` table (created in the target database). ⓘ *This option is only available if the **Store task recovery data in target database** option is enabled in the **Changes Processing Tuning** tab of the **Task Settings** dialog box.* • **METADATA_ONLY_RECREATE_ALL_TABLES**: Recreates the target tables defined for full load. • **METADATA_ONLY_CREATE_MISSING_TABLES**: Creates missing target tables, including Change Tables.
Request state	• **SUCCESS**: Connection to endpoint is valid • **FAILURE**: Connection to endpoint is not valid
state	Represented as enum values: • **TABLE_QUEUED** = 0: A table awaiting loading. • **TABLE_LOADING** = 1: A table being loaded to the target. • **TABLE_COMPLETED** = 2: A table that has been loaded to the target. • **TABLE_CHANGE_PROCESSING** = 3: A table that has been loaded to the target and is being updated according to changes on the source. • **TABLE_ERROR** = 4: An error occurred while processing the table.
Table type	Represented as enum values: • **TABLE** = 1 • **VIEW** = 2

Parameter Name	Value / Description
Load order	Represented as enum values: • **LOWEST** = -2147483647; • **LOWER** = -5000; • **LOW** = -1000; • **NORMAL** = 0; • **HIGH** = 1000; • **HIGHER** = 5000; • **HIGHEST** = 2147483647;

4   Enterprise Manager Python API

This section explains how to use the Enterprise Manager Python API and lists the available methods.

In this section:

4.1   Prerequisites

General Prerequisites

Before using the Enterprise Manager Python SDK, make sure that:

- Qlik Enterprise Manager has been installed.
- The Qlik Enterprise Manager service is active.
- The relevant permissions have been granted.

Python 2.7 Prerequisites

1. Add the following files to the **Environment Variables** folder:
   - **C:\python27**
   - **C:\python27\Scripts**
2. Open a command prompt and type the following:
   ```
   pip -v
   ```
   If an error is returned, it means there is an issue with the "Environment Variables".
   If the command is successful, type the following:
   ```
   pip install enum34
   ```

Python 3.7 Prerequisites

Add the following files to **Environment Variables**:

- **..\appdata\Local\Programs\Python\Python37'**
- **..\appdata\Local\Programs\Python\Python37\Scripts**

4.2   Getting started - Login

This section describes how to get started with the Enterprise Manager Python SDK. To help you better understand how to implement the available methods, a code sample and a readme file that describes the code are located in the *<Enterprise Manager_Installation_Folder>/clients/python* folder.

To be able to use the Qlik Enterprise Manager Python API:

1. Import the Qlik Enterprise Manager-Client by adding the following code:
   ```
   from aem_client import *
   ```
2. Create an aem_client object using the following constructors: `(self, b64_username_password, machine_name, port=443, url="https://{0}/attunityenterprisemanager", verify_certificate=True,authentication_method=AuthenticationMethod.ACTIVE_DIRECTORY)`:
   - `b64_username_password`
     For authentication using Active Directory:
     You need to create a base64 encoding of "domain\\user:password" as follows:

- `domain_username` = '{0}\\{1}'.format(domain, username)
- `username_password_str` = str.encode('{0}:{1}'.format(domain_username, password))
- `b64_username_password` = b64.b64encode(username_password_ str).decode ('ascii')

For authentication using OpenID Connect:

> ℹ️ *This login method requires you to be in possession of a Personal Access Token generated in Enterprise Manager.*

You need to create a base64 encoding of "api-token:your-personal-access-token" as follows:

- `username_password_str` = str.encode('{0}:{1}'.format('api-token', *your-personal-access-token*))
  Where *your-personal-access-token* is the token that was generated for you in Enterprise Manager.
- `b64_username_password` = b64.b64encode(username_password_ str).decode ('ascii')

For authentication using a JWT:

> ℹ️ *This login method requires you to be in possession of a JWT.*

You need to create a base64 encoding of "api-token:your-personal-access-token" as follows:

- `username_password_str` = str.encode('{0}:{1}'.format('jwt', *your-jwt*))
  Where `your-jwt` is the actual JWT.
- `b64_username_password` = b64.b64encode(username_password_ str).decode ('ascii')

- `machine_name` - The machine on which Qlik Enterprise Manager is installed.
- `port` - The Qlik Enterprise Manager server port (usually 443).
- `url` - The URL to the Qlik Enterprise Manager server. If not set then https:// {0}/attunityenterprisemanager is used where {0} is the machine name.
- `verify_certificate` - When verify_certificate is set to **true**, there must be a valid certificate in the Qlik Enterprise Manager machine. When set to **false**, Qlik Enterprise Manager client will not validate the server certificate. The default is **true**.

Example:

```
aem_client = AemClient(b64_username_password, machine_name, verify_
certificate=False)
```

- `authentication_method` - The authentication method used by the Enterprise Manager server. Specify `AuthenticationMethod.ACTIVE_DIRECTORY` both for Active Directory authentication and OpenID Connect authentication.

The user can now use the client methods to get/set data from Qlik Enterprise Manager using the public APIs. For example:

- `aem_client. get_server_list()`
- `aem_client. get_server_list()`
- `aem_client. export_task(server_name, task_name)`

4.3   Authentication and authorization

The aem_client user and password need to be the user and password that are defined in users or groups in Qlik Enterprise Manager ACLs in at least one level (for example, Qlik Enterprise Manager level, All Servers level, and so on) with at least Viewer role.

4.4   Error handling

When a REST request fails, the HTTP response code is set to an error code. Information about the error is returned in the payload as an error response.

An error response has the following structure:

Class: AemClientException that inherits from Exception class and has the following fields:

```
error_code
message
```
This section lists the generic messages that apply to most of the API functions. Errors that are specific to a particular API function appear in the section for that API function.

Error responses

Error	Message	Description
UNAUTHORIZED_REQUEST	Unauthorized Request.	The user is not authorized to perform the requested action (for example, deleting a task).
INVALID_SESSION_ID	The session has expired or the session ID is not valid.	Session expired or invalid.
DESERIALIZE_TO_TYPE	Failed to deserialize json to type {type}: {message}	Returned when the JSON format is invalid.
AEM_SERVER_NOT_FOUND	The requested server {server} could not be found.	The requested server cannot be found.
AEM_SERVER_NOT_MONITORED	The requested server {server} is not monitored.	The requested server is not being monitored and thus the information is not accessible.

Error	Message	Description
AEM_SERVER_ NOT_CONNECTED	The requested server "{server}" cannot be reached at this time. Message: {message}	The desired information cannot be retrieved as the requested server is not connected.
AEM_SERVER_ LICENSE_EXPIRED	The license for requested server {server} has expired.	The requested server license has expired.
AEM_SERVER_ INVALID_LICENSE	The license for requested server {server} is not valid.	The requested server license is not valid.
LICENSE_NOT_ FOUND	You need to register a Replication Management license in order to use Qlik Enterprise Manager. To register or obtain a license, open the Qlik Enterprise Manager console and follow the instructions.	Replication Management license was not found. Returned when a user is permitted to Register Qlik Enterprise Manager license.
LICENSE_NOT_ FOUND_CONTACT_ ADMIN	An Enterprise Manager Admin needs to register a Replication Management license before you can use the product. To obtain a license, contact your Qlik Sales Representative with the Enterprise Manager machine name (which is displayed when you open the Enterprise Manager console).	Replication Management license was not found. Returned when a user is NOT permitted to Register Qlik Enterprise Manager license.
LICENSE_ EVALUATION_ EXPIRED	{Module} evaluation license has expired.	{Module} is one of the following: • Replication Management • Replication Analytics
LICENSE_TERM_ EXPIRED	{Module} license has expired.	{Module} is one of the following: • Replication Management • Replication Analytics

Error	Message	Description
LICENSE_INVALID_ SIGNATURE	The {Module} license signature is invalid.	{Module} is one of the following: • Replication Management • Replication Analytics
LICENSE_HOST_ MISMATCH	The host name in the {Module} license does not match the Enterprise Manager machine name.	{Module} is one of the following: • Replication Management • Replication Analytics
AEM_MISSING_ FIELD	The "{fieldName}" field is missing from the request.	When a mandatory field is missing from the request or appears empty

4.5   put_server_license

Registers a license on a specific server via Qlik Enterprise Manager.

Required User Role: See *Required Enterprise Manager permissions (page 291)*.

Syntax

```
def put_server_license(
self,
payload,
server
)
```

Parameters

Parameters

Parameter	Type	Description
payload	string	The license to register on the server [stream]. This is the license that was provided by your Qlik Sales Representative. **Expected format:** Text or JSON. Currently refers to the Replicate license only.
server	string	The name of the server.

Return values

N/A

Errors

All of the general errors as well as the errors listed in the table below.

Error responses

Error	Message	Description
AEM_PUT_ SRV_LIC_ INNER_ERR	Failed to put license for server " {server}". Error: "{message}"	Returned if Qlik Enterprise Manager encounters an error/exception when trying to register the license on the specified server.
AEM_SRV_LIC_ INVALID_ FORMAT	The license file format is corrupt.	Returned when the contents of the license file are invalid.

4.6   get_server_details

Retrieves details about the specified server.

Required User Role: See *Required Enterprise Manager permissions (page 291)*.

Syntax

```
def get_server_details(
self,
server
)
```

Parameters

Parameters

Parameter	Type	Description
server	string	The specified server name in Qlik Enterprise Manager.

Return values

AemGetServerDetailsResp

Return values

Value	Type	Description
server_details	AemServerDetails	ReplicateServerDetails or ComposeServerDetails that are inherited from AemServerDetails.

Value	Type	Description
configuration	-	-
host	string	The host name or IP address of the Replicate/Compose Server machine.

platform	AemPlatform
	{
	`UNKNOWN = 0,`
	`WINDOWS = 1,`
	`LINUX = 2`
	}
		The platform on which the Replicate/Compose Server machine is installed.

port	string	The port through which the Replicate/Compose Server machine is accessed.
user_name	string	The user name for connecting to the Replicate/Compose Server machine.
description	string	The server description.
last_connection	string	The date and time of the last successful sync/retrieval of tasks and messages.
license	ApiLicense	-
days_to_expiration	int	The number of days left before the license expires.
expiration	string	The expiration date of the server license.
issue_date	string	When the license was issued.

state	AemLicenseState
	
	{
	
	VALID_LICENSE = 0,
	
	INVALID_LICENSE_CHECKSUM = 1,
	
	EXPIRED_LICENSE = 2,
	
	NO_LICENSE = 3,
	
	MACHINE_NOT_LICENSED = 4,
	
	INVALID_LICENSE = 5
	
	}
		The current license state (for example, valid, expired, and so on).

Value	Type	Description
message	string	The error message if Qlik Enterprise Manager fails to connect to the Replicate/Compose Server machine.
name	string	The name of the server in Qlik Enterprise Manager.
resource_ utilization	AemServerUtilization	-
attunity_cpu_ percentage	int	The sum of CPU percentage of Replicate server and all running tasks processes.
disk_usage_ mb	long	The amount of disk space that the server is currently consuming, in MB. This is the sum of disk usage for all tasks on this server.
machine_cpu_ percentage	int	The CPU percentage of the machine where Replicate is installed.
memory_mb	long	The amount of memory that the server is currently consuming, in MB. This is the sum of memory usage for all active tasks on this server, excluding stopped tasks.

state	AemServerState
	
	`{`
	`NOT_MONITORED = 0,`
	`MONITORED = 1,`
	`ERROR = 2`
	`}`
		The state of the server.

aem_tasks_ summary	TaskSummary	-
error	int	The number of tasks that encountered a fatal error.
recovering	int	The number of recovering tasks
running	int	The number of running tasks.
stopped	int	The number of stopped tasks.
total	int	The total number of tasks, regardless of state.
version	string	The Replicate/Compose Server version.

> ℹ️ • *The return value -1 means N/A.*
>
> • *Parameters related to Disk, Memory, Qlik CPU, and Machine CPU usage are not available for Compose servers. For Compose servers, these parameters will be returned as -1.*
>
> • *Parameters related to Qlik CPU and Machine CPU usage are only available for Replicate 6.2 and above. For earlier Replicate versions, these parameters will be returned as -1.*
>
> • *For servers that are in an error state or not monitored, parameters related to Disk and Memory usage will be returned as -1.*

Errors

Error responses

Error	Message	Description
AEM_SERVER_NOT_ FOUND	Replicate server {server} could not be found.	Server name unknown to Qlik Enterprise Manager.

See *Error handling (page 143)*.

4.7   put_server

Adds a new Replicate/Compose Server or updates the server definition (Connection Properties) if the specified server already exists. This method can be used together with AemGetServer in order to update the connection properties of an existing server.

First call AemGetServer, then edit the returned properties as required, and finally, call AemPutServer.

Required User Role: See *Required Enterprise Manager permissions (page 291)*.

Syntax

```
def put_server(
self,
payload,
server
)
```

Parameters

Parameters

Parameter	Type	Description
payload	AemServer	AemReplicateServer or AemComposeServer that is inherited from AemServer.
host	string	The host name or IP address of the server.

Parameter	Type	Description
name	string	The name of the server.
description	string	The server description.
port	string	The port through which the server is accessed.
username	string	The user name to connect to the Replicate/Compose Server.
password	string	The password to connect to the Replicate/Compose Server.Note The password identifier (GUID) that is returned by GetServer is valid only for the session in which it was generated. Using it in another session (for example as input for PutServer) will result in exception.
verify_ server_ certificate	bool	Set to "true" to ensure the Server certificate is trusted. As a rule, to reduce the chance of "man-in-the-middle" attacks, this option should always be set to "true". • When connecting directly to an Qlik Replicate replication server (default port 3552) with its automatically generated self-signed certificate, Qlik Enterprise Manager is able to validate the certificate without requiring any additional setup. • When connecting to a Replicate Server via the Replicate UI Server (typically using port 443) or to the Replicate replication server with a user-installed certificate, you must make sure that the SSL/TLS certificate used by the server is trusted by the Qlik Enterprise Manager machine. The same applies when connecting to a Compose Server with a user-installed certificate. You can easily verify whether the certificate is trusted by opening a Chrome browser window on the Qlik Enterprise Manager machine and connecting to Replicate. If there are no security warnings, the certificate is trusted. For information on the different ways of connecting to Qlik Replicate, see Qlik Replicate Server Requirements in the Qlik Enterprise Manager Help.
monitored	bool	Whether to retrieve tasks and messages from this server or not.
server	string	The name of the server.

Return values

N/A

Errors

All of the general errors as well as the errors listed in the table below.

Error responses

Error	Message	Description
DESERIALIZE_ TO_TYPE	"Failed to deserialize json to type AemServer: {message}"	Returned when the JSON format is invalid format. For example, such an error will be returned if the JSON contains an unknown role.
AEM_PUT_ SERVER_ INNER_ERR	Failed to put server "{server}". Error: "{message}".	Returned if Qlik Enterprise Manager encounters an error/exception when trying to PUT the server.
AEM_INVALID_ SERVER_TYPE	Server type {ServerType} for server "{ServerName}" is not valid.	Returned when the an invalid server type is specified.
AEM_NAME_ URL_MISMATCH	The name of the server in the request does not match the one that is specified in the URL.	Returned when the name of the server in the request does not match the one that is specified in the URL.
AEM_EMPTY_ HOST	The host is missing from the request.	Returned when the host is missing from the request.
AEM_EMPTY_ PORT	The port is missing from the request.	Returned when the port is missing from the request.
AEM_EMPTY_ USERNAME	The username is missing from the request.	Returned when the user name is missing from the request.
AEM_EMPTY_ PASSWORD	The password is missing from the request.	Returned when the password is missing from the request.
AEM_INVALID_ PORT	The port is invalid.	Returned when the specified port is not valid.

Error	Message	Description
AEM_INVALID_ USERNAME	The user name is invalid. User names cannot exceed 104 characters and can contain all Unicode characters except for the following characters: Forward slash (/), Left square bracket ([), Right square bracket (]), Colon (:), Semicolon (;), Vertical bar (|), Equal sign (=), Plus sign (+), Asterisk (*), Question mark (?), Left angle bracket (<), Right angle bracket (>), Double quote (\").	Returned when the specified user name is not valid.
AEM_INVALID_ DESC	The description is invalid. Descriptions cannot exceed 250 characters.	Returned when the description exceeds 250 characters.
AEM_INVALID_ HOST	The host is invalid. Hosts cannot exceed 64 characters and can only contain letters (a-z or A-Z), digits, spaces, dots (.), dashes (-), and underscores (_).	Returned when the server host name exceeds 64 characters or contains invalid characters.
AEM_INVALID_ NAME	The name of the server is invalid. Server names cannot exceed 64 characters and can only contain letters (a-z or A-Z), digits, spaces, dots (.), dashes (-), and underscores (_).	Returned when the server name exceeds 64 characters or contains invalid characters.
AEM_HOST_ PORT_ ALREADY_EXIST	Host {name/IP} and port {number} are already in use by another server.	Returned when both the server host name/IP address and the server port are already in use by another server.

4.8   put_server_acl

Puts an explicit ACL for a specific server in Qlik Enterprise Manager. The method will replace any existing explicit ACL with the ACL in the request. The request also includes a Boolean flag for specifying whether or not the server should inherit ACLs from its ancestors (in addition to its explicitly defined ACLs).

The inherited ACLs (i.e., the ACLs of the server's ancestors) are not affected by this method.

The `AemPutServerAcl` can be used together with the `AemGetServerAcl` method in order to update an existing server's ACL. First call `AemGetServerAcl`, then edit the returned roles as required, and finally, call `AemPutServerAcl`.

Behavior when putting a partial request:

When the request body includes only some of the roles (as opposed to all four of them), only the roles specifically defined in the request body will be set on the server; roles that are missing or empty will be inherited, but only if the following are true:

- The `disable_inheritance` flag is set to "True".
- The roles that are missing/empty in the request are defined for the ancestors.

Behavior on conflicts:

If the `disable_inheritance` flag is set to "False" and the explicit roles in the request conflict with existing inherited roles, then the explicit roles will take precedence. For example, if the request defines user A as a Viewer on **MyServer** and user A is also defined as an Admin on All Servers, then user A will be defined as an Admin on All Servers but as a Viewer on **MyServer**.

> *The user permissions in Enterprise Manager are completely independent of the user permissions in Replicate. Consequently, `AemPutServerAcl` will affect the server's Enterprise Manager user permissions, but will not affect Replicate's user permissions.*
>
> *Moreover, when performing an operation via Enterprise Manager, the user permissions defined for the server entity in Enterprise Manager apply, whereas when performing an operation directly via the Replicate Console, the user permissions defined in Replicate apply.*

> *Defining the same user/group in different roles is not allowed. However, if the same user or group is defined in different roles but with a different case (for example, Mike vs. mike or Analysts vs. ANALYSTS), no error will be returned and the strongest role will take precedence.*

Required User Role: See *Required Enterprise Manager permissions (page 291)*.

Syntax

```
def put_server_acl(
self,
payload,
server
)
```

Parameters

Parameters

Parameter	Type	Description
payload	AemAuthorizationAcl	-
disable_ inheritance	bool	If set to "true", the server does not inherit ACLs from its ancestors (in addition to its explicit ACLs). If set to "false", the server inherits ACLs from its ancestors, in addition to any explicit ACLs.

Parameter	Type	Description
admin_role	AemRoleDef	Users and/or groups assigned as Admin role.
designer_ role	AemRoleDef	Users and/or groups assigned as Designer role.
operator_role	AemRoleDef	Users and/or groups assigned as Operator role.
viewer_role	AemRoleDef	Users and/or groups assigned as Viewer role.
groups	List<AemGroupRef>	Groups assigned as the role.
name	string	The group name.
users	List<AemUserRef>	Users assigned as the role.
name	string	The user name.
server	string	The name of the server.

Return values

N/A

Errors

All of the general errors as well as the errors listed in the table below.

Error responses

Error	Message	Description
DESERIALIZE_ TO_TYPE	"Failed to deserialize json to type AemAuthorizationAcl: {message}"	Returned when the JSON format is invalid. For example, such an error will be returned if the JSON contains an unknown role.
AEM_PUT_ SERVER_ACL_ INNER_ERR	Failed to put ACL of server " {server}". Error: "{message}".	Returned if Qlik Enterprise Manager encounters an error/exception when trying to put the server's ACL.
AEM_NO_ DOMAIN_IN_ USER	User "{userName}" must be preceded by a domain name, separated by a backslash. **Example:** domain_name\user_name.	Returned when the domain is missing from the user name.

Error	Message	Description
AEM_NO_ DOMAIN_IN_ GROUP	Group "{groupName}" must be preceded by a domain name, separated by a backslash. **Example:** domain_name\group_name.	Returned when the domain is missing from the group name.
AEM_NO_ ADMIN_ON_ SERVER	Requested server "{serverName}" has no admin user. At least one user or group must be assigned to the "admin" role.	Returned when there is no admin on the server. Possible reasons: • The request JSON is set to `disable_inheritance=true` and the explicit admin role in the JSON is empty. • The JSON is set to `disable_ inheritance =true`, the explicit admin role in the JSON is empty, and the parent levels do not have an admin user to inherit.
AEM_USER_ ASSIGNED_TO_ MULTIPLE_ ROLES	User "{userName}" is assigned to multiple roles. Users can only be assigned to a single role.	Returned when a user is assigned to multiple roles.
AEM_GROUP_ ASSIGNED_TO_ MULTIPLE_ ROLES	Group "{groupName}" is assigned to multiple roles. Groups can only be assigned to a single role.	Returned when a group is assigned to multiple roles.
AEM_USER_ GROUP_ MULTIPLE_ ASSIGNED	"{userName/groupName}" is assigned to multiple roles or to the same role twice. Users/groups can only be assigned once, and to a single role.	Returned either when the specified user already exists as a group in the same/another role, or the specified group already exists as a user in the same/another role.

4.9   get_server

Retrieves the definition (Connection Properties) of the specified server. This method can be used together with PutServer in order to update the connection properties of an existing server. First call GetServer, then edit the returned properties as required, and finally, call PutServer.

Required User Role: See *Required Enterprise Manager permissions (page 291)*.

Syntax

```
def get_server(
```

```
self,
server
)
```

Parameters

<div align="center">Parameters</div>

Parameter	Type	Description
server	string	The name of the server to retrieve.

Return values

AemServer (AemReplicateServer or AemComposeServer that are inherited from AemServer)

<div align="center">Return values</div>

Value	Type	Description
host	string	The host name or IP address of the server.
name	string	The name of the server.
description	string	The server description.
port	string	The port through which the server is accessed.
username	string	The user name to connect to the Replicate/Compose Server.
password	string	The password to connect to the Replicate/Compose Server.Note The password identifier (GUID) that is returned by GetServer is valid only for the session in which it was generated. Using it in another session (for example as input for PutServer) will result in exception.
verify_ server_ certificate	bool	When "true", Qlik Enterprise Manager verifies that the Server certificate is trusted, thereby reducing the chance of "man-in-the-middle" attacks. For details on setting this option, see *put_server (page 224)*.
monitored	bool	Whether to retrieve tasks and messages from this server or not.

Errors

See general errors.

4.10   get_server_acl

Retrieves the explicit ACL defined in Qlik Enterprise Manager for the specified server, including a Boolean indication if ACL inheritance is disabled or enabled for the server.

The method returns the explicit ACL only. In other words, it does not return inherited ACLs.

If all of the servers ACLs are inherited (that is, no ACL was explicitly defined for the server), an error will be returned indicating that no ACL was found.

This method can be used together with `AemPutServerAcl` in order to update an existing server's ACL. First, call `AemGetServerAcl`, then edit the returned roles as required, and finally, call `AemPutServerAcl`.

Required User Role: See *Required Enterprise Manager permissions (page 291)*.

Syntax

```
def get_server_acl(
self,
server
)
```

Parameters

Parameters

Parameter	Type	Description
server	string	The name of the server where the ACL is located.

Return values

AemAuthorizationAcl

Return values

Value	Type	Description
disable_ inheritance	bool	If set to "true", the server does not inherit ACLs from its ancestors (in addition to its explicit ACLs). If set to "false", the server inherits ACLs from its ancestors, in addition to any explicit ACLs.
admin_role	AemRoleDef	Users and/or groups assigned as Admin role.
designer_ role	AemRoleDef	Users and/or groups assigned as Designer role.
operator_role	AemRoleDef	Users and/or groups assigned as Operator role.
viewer_role	AemRoleDef	Users and/or groups assigned as Viewer role.
groups	List<AemGroupRef>	Groups assigned as the role.
name	string	The group name.
users	List<AemUserRef>	Users assigned as the role.
name	string	The user name.

Errors

All of the general errors as well as the errors listed in the table below.

Error responses

Error	Message	Description
AEM_GET_ SERVER_ACL_ INNER_ERR	Failed to get ACL of server "{server}". Error: "{message}".	Returned if Qlik Enterprise Manager encounters an error/exception when trying to get the server ACL.
AEM_SERVER_ HAS_NO_ACL	ACL for server " {server}" could not be found.	Returned if no explicit ACL is defined for the server. *A server that does not have its own explicit ACL inherits the ACL from its ancestors. Inherited ACLs are not returned by this method.*

4.11   get_server_list

Retrieves a list of servers under Qlik Enterprise Manager management as well as each server's properties.

Required User Role: See *Required Enterprise Manager permissions (page 291)*.

Syntax

```
def get_server_list(
self
)
```

Parameters

N/A

Return values

AemGetServerListResp

Return values

Value	Type	Description
serverList	List<AemServerInfo>	ReplicateServerInfo or ComposeServerInfo that inherit from AemServerInfo.
description	string	The description of the server
host	string	The host name or IP address of the server.
last_ connection	string	The date and time of the last successful sync/retrieval of tasks and messages.
message	string	The error message if Qlik Enterprise Manager fails to connect to the server.
name	string	The name of the server.

Value	Type	Description

platform	AemPlatform
	
	{
	
	UNKNOWN = 0, WINDOWS = 1, LINUX = 2
	
	}
		AemPlatform

port	string	The port through which the server is accessed.

state	AemServerState
	
	{
	
	NOT_MONITORED = 0,
	
	MONITORED = 1,
	
	ERROR = 2
	
	}
		AemServerState

version	string	The Replicate/Compose Server version

Errors

All of the general errors as well as the errors listed in the table below.

Error responses

Error	Message	Description
AEM_SERVER_NOT_ FOUND	Replicate server {server} could not be found.	Server name unknown to Qlik Enterprise Manager.

4.12   delete_server

Description

When this method is called, Qlik Enterprise Manager will:

- Delete the specified server from Qlik Enterprise Manager
- Stop monitoring any tasks that were defined on the server
- Delete all messages related to the server from the Message Center
- Delete all user roles defined for the server, the server tasks, and the server endpoints

> ℹ️ *The above operations will be performed, regardless of whether the server is currently being monitored or in an error state.*

Required User Role: See *Required Enterprise Manager permissions (page 291)*.

Syntax

```
def delete_server(
self,
server
)
```

Parameters

Parameters

Parameter	Type	Description
server	string	The name of the server to be deleted.

Return values

N/A

Errors

All of the general errors as well as the errors listed in the table below.

Error responses

Error	Text	Description
AEM_SERVER_NOT_FOUND	Requested server " {server}" could not be found.	The server name is unknown to Qlik Enterprise Manager.
AEM_DELETE_SERVER_INNER_ERR	Failed to delete requested server "{server}".	Qlik Enterprise Manager encountered an error/exception when trying to delete the server.

4.13   delete_server_acl

Deletes the explicit ACL defined in Qlik Enterprise Manager for the specified server. Inherited ACLs are not affected by this method. Once the explicit ACL is deleted from the server, all ACLs will be automatically inherited from the server's ancestors.

Required User Role: See *Required Enterprise Manager permissions (page 291)*.

Syntax

```
def delete_server_acl(
```

```
self,
server
)
```

Parameters

Parameters

Parameter	Type	Description
server	string	The name of the server whose ACL needs to be deleted.

Return values

N/A

Errors

All of the general errors as well as the errors listed in the table below.

Error responses

Error	Message	Description
AEM_DELETE_ SERVER_ACL_ INNER_ERR	Failed to delete ACL of server "{server}". Error: "{message}".	Returned if Qlik Enterprise Manager encounters an error/exception when trying to delete the server's ACL.
AEM_SERVER_ HAS_NO_ACL	ACL for server " {server}" could not be found.	Returned when the specified server has no explicit ACL defined.

4.14   get_task_list

Retrieve a list of tasks per selected and authorized server. For each task, the API returns a few values.

Required User Role: See *Required Enterprise Manager permissions (page 291)*.

Syntax

```
def get_task_list(
self,
server
)
```

Parameters

Parameters

Parameter	Type	Description
server	string	The name of the server on which the tasks reside.

Return values

AemGetTaskListResp

Return values

Value	Type	Description
taskList	List<AemTaskInfo>	An array of Endpoint objects.
name	string	**Replicate:** - The name of the task. **Compose:** - The name of the task or workflow appended with a double underscore and the project name. **Example:** `mytask__myproject`

state	AemTaskState
	
	{
	
	STOPPED = 0,
	
	RUNNING = 1,
	
	ERROR = 2,
	
	RECOVERY = 3
	
	}
		-

Value	Type	Description

stop_reason	AemTaskStopReason {
	
	NONE = 0,
	
	NORMAL = 1,
	
	RECOVERABLE_ ERROR = 2,
	
	FATAL_ERROR = 3,
	
	FULL_LOAD_ONLY_ FINISHED = 4,
	
	STOPPED_AFTER_ FULL_LOAD = 5,
	
	STOPPED_AFTER_ CACHED_EVENTS = 6,
	
	EXPRESS_LICENSE_ LIMITS_REACHED = 7,
	
	STOPPED_AFTER_ DDL_APPLY = 8,
	
	STOPPED_LOW_ MEMORY = 9,
	
	STOPPED_LOW_ DISK_SPACE = 10
	
	}
		The reason the task stopped. For Compose tasks, this will always be NONE.

message	string	The message if the task stopped due to an error.
assigned_ tags	array	Returns the custom tags assigned to the task. If no tags are assigned to the task, an empty array will be returned.

Errors

See [general errors](#).

4.15   get_task_details

Retrieves details about a selected and authorized task. The API returns full monitoring information related to the selected task.

Required User Role: See .

Syntax

```
def get_task_details(
self,
server,
task
)
```

Parameters

Parameters

Parameter	Type	Description
server	string	The name of the server.
task	string	• **Replicate:** - The name of the task. • **Compose:** - The name of the task or workflow appended with a double underscore and the project name. **Example:** `mytask__myproject`

Return values for Replicate tasks

AemGetTaskDetailsResp

Return values

Value	Type	Description
task	AemTaskInfoDetailed	-
type	string	AemTaskInfoDetailed
name	string	The task name.
description	string	The task description. If there is no description, an empty string will be returned.
cdc_event_ counters	AemTaskCdcEventCounters	All numeric data concerning CDC events
applied_ddl_ count	long	The total number of metadata changes, such as add column
applied_delete_ count	long	The number of records deleted in total for all tables
applied_insert_ count	long	The number of records added in total for all tables
applied_update_ count	long	The number of records updated in total for all tables
cdc_latency	AemCdcLatency	CDC latency information

Value	Type	Description
source_latency	string	The time gap between the original change in the source endpoint and capturing it, in hh:mm:ss
total_latency	string	The overall latency (source latency + target latency + apply latency), in hh:mm:ss
cdc_throughput	AemCdcThroughput	Indicates how fast the table records are being replicated to the target endpoint (by number or volume of records). Refers only to the current/last CDC.
source_ throughput_ records_count	AemCdcThroughputItem	The current source throughput, in rec/sec
source_ throughput_ volume	AemCdcThroughputItem	The current source throughput, in kbyte/sec
target_ throughput_ records_count	AemCdcThroughputItem	The current target throughput, in rec/sec
target_ throughput_ volume	AemCdcThroughputItem	The current target throughput, in kbyte/sec
current	long	-
cdc_ transactions_ counters	AemCdcTransactionsCounters	All numeric data concerning CDC transactions
applied_ comitted_ transaction_ count	long	The number of transactions committed.
applied_records_ comitted_count	long	The sum of all records/events in all Completed transactions
applied_records_ in_progress_ count	long	The sum of all records/events in all In-Progress transactions
applied_ transactions_in_ progress_count	long	The number of transactions in progress.

Value	Type	Description
applied_volume_ comitted_mb	long	The sum of all volume/events in all Completed transactions, in MB.
commit_change_ records_count	long	The number of COMMIT change records.
incoming_ accumulated_ changes_on_ disk_count	long	The number of changes accumulated on disk until source commit
incoming_ accumulated_ changes_in_ memory_count	long	The number of changes accumulated in memory until source commit.
incoming_ applying_ changes_in_ memory_count	long	The number of changes in memory during apply and until target commit.
incoming_ applying_ changes_on_ disk_count	long	The number of changes on disk during apply and until target commit.
rollback_ change_records_ count	long	The number of ROLLBACK change records.
rollback_ change_volume_ mb	long	The volume of ROLLBACK changes, in MB.
rollback_ transaction_ count	long	The number of changes in memory during apply and until target commit.
full_load_ completed	bool	-
full_load_ counters	AemTaskFullLoadCounters	All numeric data concerning Full Load events.
estimated_ records_for_all_ tables_count	long	The estimated number of records remaining to be loaded into the target endpoint.
records_ completed_count	long	The total number of records that have completed loading into the target endpoint.

Value	Type	Description
tables_ completed_count	int	The number of tables that have been loaded into the target endpoint.
tables_loading_ count	int	The number of tables that are currently being loaded into the target endpoint.
tables_queued_ count	int	The number of tables that are waiting to be loaded due to an error.
tables_with_ error_count	int	The number of tables that could not be loaded due to an error.
full_load_end	string	Indicates whether the full load process has ended.
full_load_start	string	The start time of the full load process. Format: YYY MM DD Timezone: UTC
full_load_ throughput	AemFullLoadThroughput	-
source_ throughput_ records_count	int	The current source throughput, in rec/sec.
source_ throughput_ volume	int	The current source throughput, in kbyte/sec.
target_ throughput_ records_count	int	The current target throughput, in rec/sec.
target_ throughput_ volume	int	The current target throughput, in kbyte/sec.
memory_mb	long	The current utilization of memory, in MB. A task's memory utilization is sampled every 10 seconds. When the task is not running, the value is set to zero (0).

Value	Type	Description
cpu_percentage	-	The current CPU usage of the Replicate task process. ⓘ *Only available for Replicate tasks running on Replicate 6.2 and above. When not available, this parameter will be returned as -1.*
disk_usage_mb	long	The current utilization of disk space, in MB. A task's disk utilization is sampled every minute.
data_error_count	long	The total number of data errors in all tables involved in the task. The count is affected by data errors and the **Reset Data Errors** option available when you drill down to a task.
options	AemCommonSettings	-
apply_changes_ enabled	bool	See [Task Options](#).
audit_changes_ enabled	bool	See [Task Options](#).
full_load_ enabled	bool	See [Task Options](#).
store_changes_ enabled	bool	See [Task Options](#).
profile	string	See [Profile Parameters](#).
source_endpoint	TaskEndpoint	-
name	string	The name of the source endpoint.
type	string	The source endpoint type.
target_endpoint	TaskEndpoint	-
name	string	The name of the target endpoint.
type	string	The target endpoint type.

Value	Type	Description

state	AemTaskState
	
	{
	STOPPED = 0,
	RUNNING = 1,
	ERROR = 2,
	RECOVERY = 3
	}
		The current state of the task.

task_stop_reason	AemTaskStopReason
	
	{
	
	NONE = 0,
	
	NORMAL = 1,
	
	RECOVERABLE_ERROR = 2,
	
	FATAL_ERROR = 3,
	
	FULL_LOAD_ONLY_FINISHED = 4,
	
	STOPPED_AFTER_FULL_LOAD = 5,
	
	STOPPED_AFTER_CACHED_EVENTS = 6,
	
	EXPRESS_LICENSE_LIMITS_REACHED = 7,
	
	STOPPED_AFTER_DDL_APPLY = 8,
	
	STOPPED_LOW_MEMORY = 9,
	
	STOPPED_LOW_DISK_SPACE = 10
	
	}
		The reason the task stopped.

log_stream_staging	string	If the task is writing to/reading from the Log Stream staging folder, the name of the associated Log Stream Staging task will be returned. Otherwise, an empty string will be returned.

Value	Type	Description
assigned_tags	array	Returns the custom tags assigned to the task. If no tags are assigned to the task, an empty array will be returned.
message	string	The message if the task stopped due to an error.

Return Values for Compose Tasks

AemGetTaskDetailsResp

Name	Type	Description
type	string	One of the following: • AemComposeDWTaskInfoDetailed (for Data Warehouse tasks) • AemComposeDMTaskInfoDetailed (for Data Mart tasks) • AemComposeDLTaskInfoDetailed (for Data Lake tasks)
project	string	The name of the Compose project.
profile	string	See Profile Parameters.
name	string	The name of the task or workflow appended with a double underscore and the project name. **Example:** `mytask__myproject`
description	string	The task description. If there is no description, an empty string will be returned.
state	string	The current task state
message	string	The message shown in the event that the task ends with an error.
options	AemCommonSettings	-
full_load_ enabled	bool	Indicates whether the Full Load option is enabled. Can be "true" or "false"
apply_ changes_ enabled	bool	Indicates whether the Change Processing option is enabled. Can be "true" or "false"

Name	Type	Description
source_ endpoint	TaskEndpoint	-
name	string	The logical name of the landing database.
type	string	The landing database type.
target_ endpoint	TaskEndpoint	-
name	string	The logical name of the storage database.
type	string	The storage database type.
loading_ completed	bool	Indicates whether the loading process has completed. Can be "true" or "false"
loading_start	string	The start time of the loading process Format: YYY MM DD Timezone: UTC
loading_end	string	The end time of the loading process Format: YYY MM DD Timezone: UTC
loading_ counters	AemTaskFullLoadCounters	-
tables_total_ count	int	The total number of tables.
tables_ completed_ count	int	The number of tables that have been loaded into the target endpoint
tables_loading count	int	The number of tables that are currently being loaded into the target endpoint
tables_ queued_count	int	The number of tables that are waiting to be loaded due to an error
tables_with_ error_count	int	The number of tables that could not be loaded due to an error
commands_ total_count	int	The total number of commands executed
commands_ completed_ count	int	The total number of commands completed

Name	Type	Description
assigned_tags	array	Returns the custom tags assigned to the task. If no tags are assigned to the task, an empty array will be returned.

Errors

All of the general errors as well as the errors listed in the table below.

Error responses

Error	Message	Description
AEM_TASK_ NOT_FOUND	Replication task {task} on server {server} could not be found.	The task name is unknown to Qlik Enterprise Manager.

4.16   get_table_list

Retrieves the list of tables of a specific Replicate task that matches the specified state(s), table schema(s), and table name(s). This is useful for automation processes, for example, as it allows you to retrieve tables in a certain state (e.g. suspended) and then perform an operation on them (e.g. ReloadTable).

Required User Role: See *Required Enterprise Manager permissions (page 291)*.

Syntax

```
def get_table_list(
self,
server,
task,
schema = None,
table = None,
includequeued = False,
includeloading = False,
includecompleted = False,
includechangeprocessing = False,
includeerror = False):
""" response payload: AemGetTableListResp
```

Parameters

Parameters

Value	Type	Description
server	string	The Replicate Server name as defined on Qlik Enterprise Manager. **Example:** myrepsrv1

Value	Type	Description
schema	string	The default is all source schemas. Specifying a specific schema name will retrieve all tables from the specified schema. Specifying a pattern will retrieve all tables from schemas that match the pattern. For example, specifying **ad%** will retrieve tables from the **adventure** and **adventuretwo** schemas. ℹ️ *Schema names are case-sensitive.*
table	string	The default is all source tables. Specifying a specific table name will retrieve the specified table. Specifying a pattern will retrieve all tables that match the pattern. For example, specifying **em%** will retrieve the **employees** and **employed** tables.Table names are case-sensitive.
includequeued	boolean	Whether to retrieve tables in a queued state.
includeloading	boolean	Whether to retrieve tables in a loading state.
includecompleted	boolean	Whether to retrieve tables in a completed state.
includechangeprocessing	boolean	Whether to retrieve tables in a Change Processing state (that is, tables that are having changes applied to them).
includeerror	boolean	Whether to retrieve tables in an error state.

Return values

AemGetTableListResp

Return values

Value	Type	Description
TableList	List	List of tables that matches the specified input parameters.
schema	string	The name of the schema.
table	string	The name of the table.
state	enum	The current state of the table.

Errors

All of the general errors as well as the errors listed in the table below.

Error responses

Error	Message	Description
AEM_TABLE_ LIST_INNER_ ERR	Failed to retrieve table list for replication task " {task}" on server "{server}". Error: "{message}"	Returned when the table list cannot be retrieved.
AEM_TASK_ NOT_FOUND	Replicate task {task} on server {server} could not be found.	The task name is unknown to Enterprise Manager.

4.17   get_task_table_selection

Retrieves the list of tables selected for inclusion (either explicitly or using pattern) in a specific Replicate task.

Required user role

See *Required Enterprise Manager permissions (page 291)*.

Syntax

```
def get_task_table_selection(
self,
server,
task
)
```

Call parameters

Parameters

Parameter	Type	Description
server	string	The Replicate Server name as defined on Qlik Enterprise Manager. **Example:** myrepsrv1
task	string	The Replicate task for which to retrieve the list of tables.

Errors

All of the general errors as well as the errors listed in the table below.

Error responses

HTTP Code	Enterprise Manager Code	Text	Description
500	AEM_TABLE_ LIST_INNER_ ERR	Failed to retrieve table list for replication task " {task}" on server "{server}". Error: "{message}"	Returned when the table list cannot be retrieved.
500	AEM_TASK_ NOT_FOUND	Replicate task {task} on server {server} could not be found.	The task name is unknown to Enterprise Manager.

Errors

All of the general errors as well as the errors listed in the table below.

Error responses

HTTP Code	Enterprise Manager Code	Text	Description
500	AEM_TABLE_ LIST_INNER_ ERR	Failed to retrieve table list for replication task " {task}" on server "{server}". Error: "{message}"	Returned when the table list cannot be retrieved.
500	AEM_TASK_ NOT_FOUND	Replicate task {task} on server {server} could not be found.	The task name is unknown to Enterprise Manager.

4.18   put_task_table_selection

Overrides the list of tables selected for inclusion in a specific Replicate task.

Required user role

See *Required Enterprise Manager permissions (page 291)*.

Syntax

```
def set_task_table_selection(
self,
payload,
server,
task
)
```

Call parameters

Parameters

Parameter	Type	Description
payload	TableSelectionDefinition	The table selection definitions.
server	string	The Replicate Server name as defined on Qlik Enterprise Manager. **Example:** myrepsrv1
task	string	The Replicate task for which to change the selected tables.

Payload attributes

The following attributes can be included in the payload:

- **List<TableSelection> IncludedPattern:** Tables matching this pattern will be included
- **List<TableSelection> ExcludedPattern:** Tables matching this pattern will be excluded
- **List<TableSelection> ExplicitIncludedTables:** Tables matching this name will be included

Payload class

The following are part of the TableSelection class:

- **Owner (string):** The table schema or owner
- **Name (string):** Tables to include or exclude according to the attribute: **IncludedPattern**, **ExcludedPattern**, or **ExplicitIncludedTables**
- **LoadOrder (int):** The order in which the tables will be loaded to the target. "0" means random order. See [Load order](#) for additional enums that can be used to define the load order. You can also use `StandardLoadOrder.`*`priority`*`.value` where *`priority`* should be replaced with one of the following: `LOWEST, LOW, NORMAL, HIGH, HIGHEST`.
- **TableType (TableType enum):** The entity type. Can be view or table.

Example payload

```
table_selection_definition = TableSelectionDefinition()
table = TableSelection()
table.owner = 'schema%'
table.name = 'ab%yz%'
table.load_order = StandardLoadOrder.LOWER.value
table_selection_definition.included_pattern.append(table)

table = TableSelection()
table.owner = 'schema3'
table.name = 'abcd%'
table_selection_definition.excluded_pattern.append(table)

table = TableSelection()
table.owner = 'schema1'
table.name = 'tbl1'
table_selection_definition.explicit_included_tables.append(table)

table = TableSelection()
table.owner = 'schema1'
table.name = 'view1'
table.load_order = StandardLoadOrder.HIGH.value
table.table_type = TableType.VIEW
table_selection_definition.explicit_included_tables.append(table)

self.aem_client.put_task_table_selection(table_selection_definition,
'server1', 'task1')
```

Errors

All of the general errors as well as the errors listed in the table below.

Error responses

HTTP Code	Enterprise Manager Code	Text	Description
500	AEM_TASK_ NOT_FOUND	Replicate task {task} on server {server} could not be found.	The task name is unknown to Enterprise Manager.

4.19   get_table_statuses

Retrieves the tables states of a specific Replicate task for all source tables that match the specified states, table schemas, and table names. This is useful for automation processes, for example, as it allows you to retrieve tables in a certain state (for example, suspended) and then perform an operation on them (for example, ReloadTable).

Required User Role: See *Required Enterprise Manager permissions (page 291)*.

Syntax

```
def get_table_statuses(
self,
server,
task,
schema = None,
table = None,
includequeued = False,
includeloading = False,
includecompleted = False,
includechangeprocessing = False,
includeerror = False):
"""

response payload: AemGetTableStatusesResp
```

Request parameters

Request parameters

Value	Type	Description
server	string	The Replicate Server name as defined on Qlik Enterprise Manager. **Example:** myrepsrv1
task	string	The Replicate task name.

Value	Type	Description
schema	string	The default is all source schemas. Specifying a specific schema name will retrieve all tables from the specified schema. Specifying a pattern will retrieve all tables from schemas that match the pattern. For example, specifying **ad%** will retrieve tables from the **adventure** and **adventuretwo** schemas.
		Schema names are case-sensitive.
table	string	The default is all source tables. Specifying a specific table name will retrieve the specified table. Specifying a pattern will retrieve all tables that match the pattern. For example, specifying **em%** will retrieve the **employees** and **employed** tables.Table names are case-sensitive.
includequeued	boolean	Whether to retrieve tables in a queued state.
includeloading	boolean	Whether to retrieve tables in a loading state.
includecompleted	boolean	Whether to retrieve tables in a completed state.
includechangeProcessing	boolean	Whether to retrieve tables in a Change Processing state (that is, tables that are having changes applied to them).
includeerror	boolean	Whether to retrieve tables in an error state.

> ⚠ *While it is possible to set a table state parameter to "false", doing so will have no effect. Therefore, if you are only interested in specific states, set the desired states to "true" rather than setting the unwanted states to "false". For example, setting includecompleted=false and includechangeprocessing=false will not work as expected (all table states will be returned). However, setting includeloading=true, includeerror=true, and includequeued=true will return the desired states. Additionally, omitting the state parameters is the same as setting all parameters to "true" so if you want to see all states, simply omit the parameters.*

Return values

AemGetTableStatusesResp

General return values

Name	Type	Description
TableDetails	List	List of table statuses that matches the specified request parameters.
schema_on_ source	string	Source schema name.
table_on_source	string	Source table name.

Name	Type	Description
schema_on_target	string	Target schema name. If this information not available, an empty string will be returned.
table_on_target	string	Target table name. If this information not available, an empty string will be returned.
state	enum	An enum reflecting the table state. See *state (page 287)*.
data_errors_count	int64	The number of data errors encountered when replicating the table.

table_full_load_info return values

Name	Type	Description
start_time	string	Date-time of when the table full load started. Timezone: UTC ; Style: ISO8601 (consistent with AemGetTaskDetails).
end_time	string	Date-time of when the table full load started. Timezone: UTC ; Style: ISO8601 (consistent with AemGetTaskDetails).
estimated_row_count	int64	Relevant only if table in certain states (loading/queued).
estimated_end_time	string	Relevant only for tables in certain states (loading/queued). Timezone: UTC ; Style: ISO8601 (consistent with GetTaskDetails). ⓘ *estimated_end_time is always null. You can calculate the approximate end time using the following formula:* `estimated_end_time = start_time + estimated_row_count * (CurrentTime - start_time)/transferred_row_count`
transferred_row_count	int64	The number of rows transferred to the target, after the source filtering, but before the target filtering.
transferred_volume_mb	int64	The amount of bytes transferred to the target, after the source filtering, but before the target filtering.

table_cdc_info return values

Name	Type	Description
insert_count	int64	The number of records inserted to the target table.
update_count	int64	The number of records updated in the target table.
delete_count	int64	The number of records deleted in the target table.
ddl_count	int64	The number of DDL operations performed on the target table.

Name	Type	Description
last_update_time	string	The last time that the table was updated on target. Timezone: UTC ; Style: ISO8601 (consistent with AemGetTaskDetails).
cached_insert_count	int64	INSERT operations that were cached during Full Load.
cached_update_count	int64	UPDATE operations that were cached during Full Load.
cached_delete_count	int64	DELETE operations that were cached during Full Load.

Errors

All of the general errors as well as the errors listed in the table below.

Error responses

Error	Message	Description
AEM_SERVER_NOT_FOUND	Replicate server {server} could not be found.	Server name unknown to Qlik Enterprise Manager.
AEM_TASK_NOT_FOUND	Replicate task {task} on server {server} could not be found.	The task name is unknown to Enterprise Manager.
AEM_TABLE_STATUSES_INNER_ERR	Failed to retrieve table statuses for replication task "{task}" on server "{server}". Error: "{message}"	Returned when the table statuses cannot be retrieved.

4.20   delete_task

Deletes the specified task. The task's logs will be deleted only if `deletetasklogs=true` is specified in the URL.

Required User Role: See *Required Enterprise Manager permissions (page 291)*.

Syntax

```
def delete_task(
self,
server,
task,
deletetasklogs = False
)
```

Parameters

Parameters

Parameter	Type	Description
server	string	The server where the task is defined.
task	string	The task to be deleted.
deletetasklogs	bool	Whether to delete the task logs or not.

Return values

N/A

Errors

Error responses

Error	Message	Description
AEM_TASK_ NOT_FOUND	Replication task {task] on server {server} could not be found.	Returned if the task name is unknown to Qlik Enterprise Manager.
AEM_DELETE_ TASK_INNER_ ERR	Replication task {task] on server {server} could not be deleted due to an error.	Returned if Enterprise Manager encounters an error/exception when trying to delete the task.
AEM_DELETE_ TASK_ERR	Replication task {task] on server {server} could not be deleted due to an error. {2}	Returned if Enterprise Manager encounters an error when trying to delete the task.
AEM_TASK_ NOT_ STOPPED	Replication task {task] on server {server} must be stopped before it can be deleted.	Returned if the replication task was running when `AemDeleteTask` attempted to delete it.

4.21   export_task

Export definitions from the selected task on the selected server. The definitions always include task settings, tables/table patterns (include/exclude), table settings and global transformations. The endpoint definition is only exported along with the task definition if with endpoints=true is set.

Required User Role: See *Required Enterprise Manager permissions (page 291)*.

Syntax

```
def export_task(
self,
server,
task,
withendpoints = False
)
```

Parameters

Parameters

Parameter	Type	Description
server	string	The name of the server on which the task is defined.
task	string	The task to be exported.
withendpoints	bool	Whether or not to export the endpoint definitions as well.

Return values

Exported task JSON file as a string.

Errors

All of the general errors as well as the errors listed in the table below.

Error responses

Error	Message	Description
AEM_METHOD_ NOT_ SUPPORTED_ VERSION	AemExportTask is only supported on Replicate 5.5 or above.	AemExportTask is only supported on Replicate 5.5 or above.
AEM_EXPORT_ TASK_NO_ PERMISSION_ ON_ENDPOINT	Failed to export task {task} from Replicate server {server} as the logged in user does not have permission to access one or both of the task's endpoints.	Export all cannot be carried out because the user does not have permissions on one or more endpoints.

4.22   import_task

Import a single task's JSON definitions provided in the request body into the requested server repository on the selected server.

The ImportTask method enables importing all valid JSON definitions provided in the request body.

This includes task settings, tables/table patterns (include/exclude), table settings and global transformations.

Information about endpoints is included if it was included in the JSON file.

When you import a task, items that existed in the target server before the import and have no new JSON definition in the request body are not modified and not removed. This means that ImportTask provides no way of removing old definitions that are no longer needed.

Required User Role: See *Required Enterprise Manager permissions (page 291)*.

Syntax

```
def import_task(
```

```
self,
payload,
server,
task
)
```

Parameters

Parameters

Parameter	Type	Description
payload	string	A JSON document to import.
server	string	The name of the server to import to.
task	string	Name of the task to import.

Return values

N/A

Errors

Error responses

Error	Message	Description
AEM_IMPORT_ TASK_NO_ PERMISSION_ ON_ENDPOINT	Failed to import task {task} to replication server {server} as the logged in user does not have permission to add or modify endpoints.	The task cannot be imported because it includes endpoint definitions, and the user does not have permissions to insert endpoints.
AEM_IMPORT_ TASK_ CONTAIN_ ALIEN_ITEMS	Failed to import task {task} to replication server {server} as the JSON file contains unsupported objects.	The task cannot be imported because the stream contains items that cannot be imported (such as remote machines).
AEM_IMPORT_ TASK_NAME_ DIFFER	Failed to import task {task} to replication server {server} as the JSON file contains conflicting tasks.	The task cannot be imported because the stream contains conflicting tasks.
AEM_IMPORT_ TASK_ CONTAINS_ MULTIPLE_ TASKS	Failed to import task to replication server {server} as the JSON file contains multiple tasks. To import multiple tasks, use AemImportAll instead.	The task cannot be imported since the stream contains multiple tasks, and the method can only import a single task.
AEM_TASK_ NOT_ IMPORTABLE	Failed to import task {task} as the task is running on server {server}. Stop the task and then try again.	Occurs when trying to import a running task.

Error	Message	Description
AEM_IMPORT_ TASK_ CONTENT_ EMPTY	Failed to import task {task} to replication server {server} as the JSON file is empty.	The task cannot be imported as the specified JSON file is empty.
AEM_IMPORT_ TASK_ ENDPOINT_ DIFFER	Failed to import task {task} to server {server} as the endpoint names in the JSON file's "task" and "databases" sections are not the same.	The task cannot be imported as the endpoint names in the specified JSON file's "task" and "databases" sections are different.
AEM_IMPORT_ TASK_NO_ ENDPOINT_IN_ SERVER	Failed to import task {task} to replication server {server} as the {role} endpoint {endpoint} does not exist on the target server.	The task cannot be imported as one of the endpoints specified in the exported JSON file does not exist on the target server.
AEM_IMPORT_ TASK_CANNOT_ OVERRIDE_ TASK	Replicate (server '{0}') import unable to delete task. Error message '{2}	The task cannot be imported because the task that it was supposed to override cannot be deleted.

4.23   clone_task

Clones the definitions of the specified task on the specified server. The definitions include the task settings, tables/table patterns (include/exclude), table settings, and global transformations. The endpoint definitions are cloned with the task definition.

> • *You cannot override an existing task with the same name*
> • *The task being cloned must have a source and target endpoint*

Required user role

Operator or above on Qlik Enterprise Manager.

Syntax

```
def clone_task
(
self,
payload,
server,
task
)
```

Syntax Parameters

Parameters

Parameter	Type	Description
payload	AemCloneTaskReq	The definitions to clone. All definitions are optional except the task name.
server	string	The Replicate Server name as defined in Qlik Enterprise Manager. **Example:** myrepsrv1
task	string	The name of the Replicate task to clone.

Payload parameters

Payload parameters

Name	Required	Description
new_task_name	Yes	The new name of the task after it has been cloned.
clone_permissions	No	Stipulates whether to clone the task permissions. The value can be true of false. The default is false, meaning that if this parameter is omitted, the permissions will not be cloned.
new_source_endpoint	No	The display name of the source endpoint. The display name must already exist on the Replicate Server. *The display name must be of an endpoint of the same type used in the task being cloned. For example, if the source endpoint in the task being cloned is of type Oracle, you cannot specify MyNewSource if it is the display name of a Microsoft SQL Server endpoint.*

Name	Required	Description
new_target_endpoint	No	The display name of the target endpoint. The display name must already exist on the Replicate Server. ⓘ *The display name must be of an endpoint of the same type used in the task being cloned. For example, if the target endpoint in the task being cloned is of type Oracle, you cannot specify MyNewTarget if it is the display name of a Microsoft SQL Server endpoint.*
new_control_schema	No	The new name of the schema in which to create the control tables.
new_target_schema	No	The new name of the schema in which to create the target tables.
new_control_table_tablespace	No	The new name of the tablespace in which to create the control tables. ⓘ *Relevant when replicating to an Oracle target only.*
new_control_index_tablespace	No	The new name of the tablespace in which to create the control table indexes. ⓘ *Relevant when replicating to an Oracle target only.*

Example

When the following method is run, `my-task` will be cloned on Replicate server `myreplicateserver` to a new task called `my-task-clone`, but will be configured with a different target endpoint that has `different-target-endpoint` as its display name.

```
clone_task_req = AemCloneTaskReq()
clone_task_req.new_task_name = 'my-task-clone'
clone_task_req.new_target_endpoint = 'different-target-endpoint'
self.aem_client.clone_task(clone_task_req, 'myreplicateserver', 'my-task')
```

4.24   export_audit_trail

Export audit trail data from all servers.

Required User Role: See *Required Enterprise Manager permissions (page 291)*.

Syntax

```
def export_audit_trail(
self,
start_timestamp,
end_timestamp
)
```

Parameters

Parameters

Parameter	Type	Description	Required
start_ timestamp	string	start timestamp: (UTC format or Ticks) Example: 2020-06-30T16:15:00Z (UTC format) Example: 637410358250082194 (Ticks)	Yes
end_ timestamp	string	end timestamp: (UTC format or Ticks) Example: 2020-06-30T16:15:00Z (UTC format) Example: 637410358250082194 (Ticks) Default : latest audit trail record	No

Return values

JSON File (stream)

Errors

All of the general errors as well as the errors listed in the table below.

Error responses

Error	Message	Description
AEM_INVALID_ TIMESTAMP_ FORMAT	Timestamp is not a timestamp. Timestamp format should be 'yyyy'-'MM'-'dd'T'HH':'mm':'ss'Z or Ticks.	Timestamp is not valid.

Error	Message	Description
AEM_EXPORT_ INNER_ERR	Failed to export audit trail. AUDIT-E-INVRANGE. The end time is before the start time.	Time range is not valid.
UNAUTHORIZED_ REQUEST	Unauthorized Request. request: AemExportAuditTrail	User does not have permission to access the audit trail information.

4.25   run_task

Run the selected task according to the specified option.

Required User Role: See *Required Enterprise Manager permissions (page 291)*.

Syntax

```
def run_task(
self,
payload,
server,
task,
option = AemRunTaskOptions.Option,
timeout = 30
)
```

Parameters

Parameters

Parameter	Type	Description
payload	AemRunTaskReq	-
cdc_position	string	The `cdcposition` parameter can either be specified inline or in an external JSON file. The format for both is described in *Request Body Format for Replicate tasks (page 264)* below. Mandatory for all AemRunTask options.
server	string	The name of the server on which to run the task.
task	string	**Replicate:** - The name of the task. **Compose:** - The name of the task or workflow appended with a double underscore and the project name. **Example:** `mytask__myproject`

Parameter	Type	Description

option	AemRunTaskOptions
	
	{
	RESUME_PROCESSING = 1,
	RELOAD_TARGET = 2,
	RESUME_PROCESSING_
	FROM_TIMESTAMP = 3,
	METADATA_ONLY_
	RECREATE_ALL_TABLES = 4,
	METADATA_ONLY_CREATE_
	MISSING_TABLES = 5,
	RECOVER_USING_
	LOCALLY_STORED_
	CHECKPOINT = 6,
	RECOVER_USING_
	CHECKPOINT_STORED_ON_
	TARGET = 7
	RESUME_PROCESSING_
	FROM_POSITION = 8
	}
	See also Run options.
		For Replicate tasks, all options are supported.
		
		For Compose tasks, specify `AemRunTaskOptions.RESUME_PROCESSING` to run the task.

timeout	int	The time, in seconds, to wait for a response.

Request Body Format for Replicate tasks

RESUME_PROCESSING_FROM_TIMESTAMP

If the task option is RESUME_PROCESSING_FROM_TIMESTAMP, then the format should be:

JSON File Format:

```
{"cdcposition":"timestamp"}
```

Example:

```
{"cdcposition":"2017-03-07T11:19:03"}
```

Inline Format:

```
"{\"cdcposition\":\"timestamp\"}"
```

Example:

```
"{\"cdcposition\":\"2017-03-07T11:19:03\"}"
```

RESUME_PROCESSING_FROM_POSITION

If the task option is RESUME_PROCESSING_FROM_POSITION then, assuming the source database is SQL Server, the format should be:

JSON File Format:

`{"cdcposition":"`*`LSN`*`"}`

Example:

`{"cdcposition":"15000000040000037"}`

Inline Format:

`"{\"cdcposition\":\"`*`LSN`*`\"}"`

Example:

`"{\"cdcposition\":\"15000000040000037\"}"`

RECOVER_USING_CHECKPOINT_STORED_ON_TARGET

If the task option is RECOVER_USING_CHECKPOINT_STORED_ON_TARGET, then the format should be:

JSON File Format:

`{"cdcposition":"`*`target_checkpoint`*`"}`

Example:

`{"cdcposition":"Checkpoint:V1#1#timestamp:2017-02-14T12:34:44#0#0#*#0#0"}`

Inline Format:

`"{\"cdcposition\":\"`*`target_checkpoint`*`\"}"`

Example:

`"{\"cdcposition\":\"Checkpoint:V1#1#timestamp:2017-02-14T12:34:44#0#0#*#0#0\"}"`

Return value

AemRunTaskResp

Return values

Value	Type	Description
error_message	string	The description of the error.

Value	Type	Description

state	AemTaskState
	
	{
	
	STOPPED = 0,
	
	RUNNING = 1,
	
	ERROR = 2,
	
	RECOVERY = 3
	
	}
		The current state of the task.

Errors

All of the general errors as well as the errors listed in the table below.

Error responses

Error	Message	Description
AEM_TASK_ ALREADY_ RUNNING	Replicate task {task} on server {server} is already running.	The task cannot be run because it is already running.
AEM_TASK_IN_ RECOVERY	Replicate task {task} on server {server} cannot be run as it is in a recovery state.	The task cannot be run because it is in Recovery state.
AEM_WRONG_ OPTION_FOR_ CDCPOSITION	Replicate task {task] on server {server} cannot be run with cdcposition {position} and option {option}. Change the option to RESUME_PROCESSING_ FROM_TIMESTAMP, RESUME_PROCESSING_ FROM_POSITION, or RECOVER_USING_ CHECKPOINT_STORED_ON_TARGET	This error is returned when the specified option conflicts with the setting in the **Advanced Run Options** dialog in Replicate.
AEM_CDC_ POSITION_ERR_ FORMAT	The cdcposition parameter value for Replicate task {task} on server {server} is not in the correct format ('YYYY-MM-DDThh:mm:ssZ').	The cdcPosition parameter must follow this format: YYYY-MM-DDThh:mm:ssZ Parameters: task name and server name
AEM_RUN_ TASK_TIMEOUT	Replicate task {task} on server {server} timed out when requested to "Run".	The task does not assume a Running state or any other steady state (error or stopped).

Error	Message	Description
AEM_RUN_ TASK_INNER_ ERR	Replicate task {task} on server {server} encountered an error when requested to run.	Replicate experienced an error/exception when trying to run the task.
AEM_RUN_ TASK_NO_SRC_ NO_TRG	Replicate task {task} on server {server} has no source or target endpoints.	Task validation revealed that the task is missing a source and a target.
AEM_RUN_ TASK_NO_SRC	Replicate task {task} on server {server} has no source endpoint.	Task validation revealed that the task is missing a source.
AEM_RUN_ TASK_TRG	Replicate task {task} on server {server} has no target endpoint.	Task validation revealed that the task is missing a target.
AEM_RUN_ TASK_NOT_FL_ NOR_CDC	Replicate task {task} on server {server} cannot be run without at least one of the replication options enabled (Full Load, Apply Changes, or Store Changes).	Task validation of a unidirectional task revealed that the replication option definition for the task is missing (Full Load, Apply Changes, or Store Changes).
AEM_RUN_BIDI_ TASK_NO_FL_ NOR_CDC	Replicate task {task} on server {server} cannot be run without at least one of the replication options enabled (Full Load or Apply Changes).	Task validation of a unidirectional task revealed that the replication option definition for the task is missing (Full Load, Apply Changes, or Store Changes).

4.26   stop_task

Stops the selected task.

Required User Role: See *Required Enterprise Manager permissions (page 291)*.

Syntax

```
def stop_task(
self,
server,
task,
int timeout = 30
)
```

Parameters

Parameters

Parameter	Type	Description
server	string	The name of the server.
task	string	• **Replicate:** - The name of the task. • **Compose:** - The name of the task or workflow appended with a double underscore and the project name. **Example:** `mytask__myproject`
timeout	int	Time, in seconds, to wait until getting a response.

Return values

AemStopTaskResp

Return values

Value	Type	Description

state	AemTaskState
	
	{
	
	STOPPED = 0,
	
	RUNNING = 1,
	
	ERROR = 2,
	
	RECOVERY = 3
	
	}
		The current state of the task.

error_message	string	The description of the error.

Errors

All of the general errors as well as the errors listed in the table below.

Error responses

Error	Message	Description
AEM_TASK_ ALREADY_STOPPED	Replicate task {task} on server {server} is already stopped.	Cannot stop a task that is in Stopped state.
AEM_STOP_TASK_ INNER_ERR	Failed to stop Replicate task {0} on server {1}: <{2}>	An error occurred while trying to stop the task.

Error	Message	Description
AEM_STOP_TASK_ TIMEOUT	A timeout occurred when trying to stop Replicate task {0} on server {1}	A timeout occurred while trying to stop the task.

4.27   get_endpoint_list

Retrieves a list of endpoints and their properties for the specified server.

Required User Role: See *Required Enterprise Manager permissions (page 291)*.

Syntax

```
def get_endpoint_list(
self,
server
)
```

Parameters

Parameters

Parameter	Type	Description
server	string	The name of the server on which the endpoints are defined.

Return values

AemGetEndpointListResp

Return values

Value	Type	Description
endpointList	List<Endpoint>	An array of Endpoint objects.
description	string	The endpoint description.
isLicensed	bool	Indicates whether the endpoint is licensed on this server.
name	string	The endpoint name.
role	EndpointRole { ALL = 0, SOURCE = 1, TARGET = 2, BOTH = 3 }	The endpoint role: SOURCE or TARGET.
type	string	The endpoint type, for example, Oracle.

Errors

All of the general errors as well as the errors listed in the table below.

Error responses

Error	Message	Description
AEM_ENDPOINT_ LIST_INNER_ERR	Failed to retrieve endpoints list from Replicate server {name}.	Replicate experienced an error/exception when trying to retrieve the endpoint list.

4.28   patch_endpoint

Updates an existing endpoint's settings.

Required user role: See *Required Enterprise Manager permissions (page 291)*.

Limitations

- The `/db_settings/$type` setting (or `/db_settings/connectioninfo/$type` setting for Java-based endpoints) cannot be updated. Java-based endpoints are as follows: Salesforce (Incremental Load), Salesforce (Streaming CDC), MongoDB, and SAP Extractor.
- If a task which uses the endpoint is currently running, changing the endpoint setting will only take effect after the task is restarted

Syntax

```
def patch_endpoint(self, payload, server, endpoint)
```

Parameters

Parameters

Parameter	Type	Description
payload	string	The operation to execute and the field on which to execute the operation (sent as a JSON file). Supported operations are 'add','replace','remove', or 'test'. For an explanation of how to find the relevant endpoint setting, see PatchEndpoint. ⓘ • *'move' and 'copy' operations are not supported.* • *The 'add' operation replaces an existing field or adds a new one, if it does not exist.*
server	string	The Replicate server name as defined in Enterprise Manager. **Example:** myrepsrv1

Parameter	Type	Description
endpoint	string	The endpoint display (logical) name. **Example:** my_s3_endpoint

Patch Payload Example

```
[

 { "op":"replace", "path":"/db_settings/bucketName",

"value":"my_new_bucket" }

]
```

Errors

All of the general errors as well as the errors listed in the table below.

Error responses

HTTP Code	Enterprise Manager Code	Text	Description
500	AEM_PATCH_ ENDPOINT_ INNER_ERR	Failed to patch replication endpoint {endpoint} from server {server}.	Replicate experienced an error/exception when trying to patch the specified endpoint.
500	AEM_ ENDPOINT_ NOT_FOUND	Replication endpoint {endpoint} on server {server} could not be found.	Returned if Qlik Enterprise Manager cannot find the endpoint to patch.

4.29   delete_endpoint

Description

Deletes the specified endpoint. Note that an endpoint can only be deleted if it is not in use by any task.

Required User Role: See *Required Enterprise Manager permissions (page 291)*.

Syntax

```
def delete_endpoint(
self,
server,
endpoint
)
```

Parameters

Parameters

Parameter	Type	Description
server	string	The server where the endpoint is defined.
endpoint	string	The name of the endpoint to be deleted.

Return values

N/A

Errors

Error responses

Error	Message	Description
AEM_ ENDPOINT_ NOT_FOUND	Replicate endpoint {endpoint} on server {server} could not be found.	Endpoint name unknown to Qlik Enterprise Manager.
AEM_DELETE_ ENDPOINT_ INNER_ERR	Failed to delete Replicate endpoint {endpoint} from server {server}.	Replicate encountered an error/exception when trying to delete the endpoint.
AEM_ ENDPOINT_ IS_IN_USE	Replicate endpoint {endpoint} on server {server} cannot be deleted as it is currently in use by one or more tasks.	The Replicate endpoint must be removed from its associated tasks before it can be deleted.

4.30   reconfigure_endpoint_no_wait

Call this method to override the source endpoint settings with settings from another endpoint *of the same type.* This method also supports automatically stopping and then resuming all tasks that are using the source endpoint (which is required for unplanned switchovers).

> - *Supported with the Oracle source endpoint only.*
> - *Using this method, requires you to set up relevant Qlik Replicate task(s) with three separate source endpoints - two inactive source endpoints defined with the primary and secondary database connection settings, and one active source endpoint (initially defined with the primary database connection settings).*
>   *For detailed instructions, see Reconfiguring endpoints (page 289).*

Required User Role: see *Required Enterprise Manager permissions (page 291)*.

Syntax

```
def reconfigure_endpoint_no_wait(
self,
server,
```

```
endpoint,
configuration = None,
recycle = True
)
```

Parameters

Parameters

Parameter	Type	Description
server	string	The name of the Replicate server (as defined in Qlik Enterprise Manager) on which the task(s) are running.
endpoint	string	The name of the source endpoint defined for the Replicate task(s).
configuration	string	The name of the secondary endpoint (or the primary endpoint when reverting the settings).
recycle	bool	Whether to stop and resume the Replicate task(s) automatically. The default is "true", that is, when an unanticipated switchover occurs, tasks using the source endpoint will be automatically stopped and then resumed after the source endpoint is updated with the settings from the secondary endpoint.

Set to "false" for planned switchovers (such as migrating to a production database or switching back to the primary database). |

Return values

N/A

Errors

All of the general errors as well as the errors listed in the table below.

Error responses

Error	Message	Description
AEM_ENDPOINT_ NOT_FOUND	Replicate endpoint "{endpoint}" on server "{server}" could not be found.	The specified endpoint could not be found.
AEM_ RECONFIGURE_ ENDPOINT_ INNER_ERR	Failed to reconfigure endpoint " {endpoint}" on server "{server}". Error: "{message}"	Qlik Enterprise Manager failed to reconfigure the endpoint with the settings of the failover endpoint.

4.31   export_all

Export all definitions from the requested server repository on the selected server (server settings, tasks, endpoints, and so on). The definitions are exported to a JSON file.

Syntax

```
def export_all(
self,
server
)
```

Parameters

Parameters

Parameter	Type	Description
server	string	The name of the server containing the repository to be exported.

Return values

Export JSON file as a string.

Errors

Error responses

Error	Message	Description
AEM_METHOD_ NOT_ SUPPORTED_ VERSION	AemExportAll is only supported on Replicate 5.5 or above.	The method requires Replicate 5.5 or above.
AEM_EXPORT_ NO_ PERMISSION_ ON_TASK	Failed to export all tasks from Replicate server {server} as the logged in user does not have permission to export one or more of the defined tasks.	Export all cannot be carried out because the user does not have permissions on one or more tasks.
AEM_EXPORT_ NO_ PERMISSION_ ON_ENDPOINT	Failed to export all tasks from server {server} as the logged in user does not have permission to export one or more of the defined endpoints.	Export all cannot be carried out because the user does not have permissions on one or more endpoints.

4.32   import_all

Import the JSON definitions provided in the request body into the requested server repository on the selected server. The ApiImportAll method uses "merge" semantics. In particular, all valid JSON definitions provided in the request body will be imported.

This includes server settings, task settings, endpoints, and other definitions.

Items that existed in the target server before the import and have no new JSON definition in the request body will not be modified and will not be removed. This means that ApiImportAll provides no way of removing old definitions that are no longer needed.

Required User Role: See *Required Enterprise Manager permissions (page 291)*.

Syntax

```
def import_all(
self,
payload,
server
)
```

Parameters

Parameters

Parameter	Type	Description
payload	string	A JSON document to import.
server	string	The name of the server to import to.

Return values

N/A

Errors

Error responses

Error	Message	Description
AEM_METHOD_ NOT_ SUPPORTED_ VERSION	AemImportAll is only supported on Replicate 5.2 or above.	The method requires Replicate 5.2 or above.
AEM_IMPORT_ NO_ PERMISSION_ ON_TASK	Failed to import all tasks to replication server {server} as the logged in user does not have permission to add tasks.	Stream cannot be imported because the user does not have the permissions to add tasks.
AEM_IMPORT_ NO_ PERMISSION_ ON_ENDPOINT	Failed to import all tasks to replication server {server} as the logged in user does not have permission to add endpoints.	Stream cannot be imported because the user does not have the permissions to add endpoints.
AEM_IMPORT_ CONTENT_ EMPTY	Failed to import all tasks to replication server {server} as the JSON file is empty.	Stream cannot be imported because it contains no content.
AEM_IMPORT_ INVALID_ CONTENT	Failed to import all tasks to replication server {server} as the JSON file contains invalid content.	Stream cannot be imported because it contains invalid content.

4.33   reload_table

Reload a specific table.

Required User Role: See *Required Enterprise Manager permissions (page 291)*.

Syntax

```
def reload_table(
self,
server,
task,
schema = None,
table = None
)
```

Parameters

<div align="center">Parameters</div>

Parameter	Type	Description
server	string	The name of the server.
task	string	The name of the task.
schema	string	The name of the table schema to reload.
table	string	The name of the table to reload.

Return values

N/A

Errors

<div align="center">Error responses</div>

Error	Message	Description
AEM_INVALID_ TASK_NOT_FL	Failed to reload table {table} as Full Load is not enabled for task {task}.	The table could not be reloaded because the task's Full Load replication option is not enabled.
AEM_INVALID_ TASK_NT_ NTSUPPEP	Failed to reload table as this operation is not supported with the File Channel source endpoint.	The table could not be reloaded because the task's source endpoint is File Channel.
AEM_ RELOAD_ TABLE_ERR	Failed to reload table {schema}.{table} for replication task {task} on server {server}: {message}	An error was encountered while trying to reload the specified table.

4.34   resume_table

A table that was suspended due to errors can be unsuspended once the errors are resolved.

> Tables in a Full Load and Apply Changes task that were suspended during the Full Load stage cannot be unsuspended. Such tables need to be reloaded instead.

Required User Role: See *Required Enterprise Manager permissions (page 291)*.

Syntax

```
def resume_table(
self,
server,
task,
schema = None,
table = None
)
```

Parameters

Parameters

Parameter	Type	Description
server	string	The name of the server.
task	string	The name of the task.
schema	string	The name of the table schema containing the table to unsuspend.
table	string	The name of the table to unsuspend.

Return values

N/A

Errors

Error responses

Error	Message	Description
AEM_INVALID_ TASK_NT_ NTSUPPEP	Failed to unsuspend table as this operation is not supported with the File Channel source endpoint.	The table could not be unsuspended because the task's source endpoint is File Channel.
AEM_ UNSUSPEND_ TABLE_ERR	Failed to unsuspend table {schema}. {table} for replication task {task} on server {server}: {message}	An error was encountered while trying to unsuspend the specified table.

4.35   test_endpoint

Connect to an endpoint to test connectivity and configuration (permissions, CDC configuration. etc.).

Required User Role: See *Required Enterprise Manager permissions (page 291)*.

Syntax

```
def test_endpoint(
self,
server,
endpoint,
timeout = 60
)
```

Parameters

Parameters

Parameter	Type	Description
server	string	The name of the server on which the endpoint is defined.
endpoint	string	The name of the endpoint.
timeout	int	Time, in seconds, to wait until getting a response.

Return values

AemTestEndpointResp

Return values

Value	Type	Description

status	AemEndpointState
	
	{
	
	UNKNOWN = 0,
	
	CONNECTED = 1,
	
	ERROR = 2
	
	}
		-

message	string	Short description of the error.
detailed_message	string	Detailed description of the error.

Errors

All of the general errors as well as the errors listed in the table below.

Error responses

Error	Message	Description
AEM_TEST_ ENDPOINT_ CONNECTION_ TIMEOUT	A timeout occurred while testing the connection for endpoint {endpoint} on Replicate server {server}.	Connection was not established within 60 seconds.
AEM_ENDPOINT_NOT_ FOUND	Replicate endpoint {0} on server {1} could not be found.	The specified endpoint could not be found.

4.36   delete_old_change_data

The method can be called on an ad-hoc basis to delete processed Change Data Partitions created on the target database by a Replicate task.

> ℹ️ • *Partitions will only be deleted if the **Change Data Partitioning** and **Partition Retention** options are enabled in the Replicate console.*
> *For more information, refer to the Qlik Replicate Setup and User Guide.*
> • *Partitions will only be deleted if the task is running. If the task is not running, the partitions will be deleted the next time the task runs.*
> • *Only partitions that are not locked by a consuming application will be deleted.*

Required User Role: See *Required Enterprise Manager permissions (page 291)*.

Syntax

```
public void DeleteOldChangeData(
AemDeleteOldChangeDataReq payload,
string server,
string task
);
```

Parameters

Parameters

Parameter	Type	Description
AemDeleteOldChangeDataReq	payload	The point in time after which partitions can be deleted, which can either be specified as a timestamp or as an offset. If a retention barrier is set, partitions will be deleted up to the retention barrier date, regardless of the specified timestamp/offset. **Timestamp Format:** [Date] (yyyy'-'MM'-'dd'T'HH':'mm':'ss'Z') **Example:** 2020-06-30T16:15:00Z **Offset Format :** [Period] Format ISO 8601 duration **Example:** P1M3DT1H2M
server	string	The name of the server on which the task is running.
task	string	The name of the task.

Error response

Error responses

Message	Text	Description
AEM_TASK_NOT_FOUND	Replication task {task] on server {server} could not be found.	Returned when an unknown task name is encountered.
AEM_INVALID_TIMESTAMP_OR_OFFSET_FORMAT	The specified deletion age does not conform to the expected timestamp or offset format. Timestamp format should be yyyy'-'MM'-'dd'T'HH':'mm':'ss'Z'. Offset format should conform to ISO 8601 duration.	Returned when the specified deletion age does not conform to the expected timestamp or offset format.
AEM_DELETE_OLD_CHANGE_DATA_INNER_ERR	Failed to request deletion of old change data for task {task} on server {server}. Message: {error_message}	Returned when an error is encountered during partition deletion.

4.37   set_change_data_retention_barrier

The method can be used to:

- Set a retention barrier for deleting consumed partitions. Setting a retention barrier will initiate periodic deletion of consumed Change Data Partitions from the target database defined for the specified task. Partitions will be deleted according to the **Allow consuming applications to delete partitions every** interval set on Replicate Server, and up to the specified "retention_point".

- Remove the retention barrier, thereby stopping periodic deletion of consumed Change Data Partitions.

> - *Partitions will only be deleted if the* **Change Data Partitioning** *and* **Partition Retention** *options are enabled in the Replicate console.*
> - *Partitions will only be deleted if the task is running. If the task is not running, the partitions will be deleted the next time it runs.*
> - *Only partitions that are not locked by a consuming application will be deleted.*

Required User Role: See *Required Enterprise Manager permissions (page 291)*.

Syntax

```
public void SetChangeDataRetentionBarrier(
AemSetChangeDataRetentionBarrierReq payload,
string server,
string task
);
```

Parameters

Parameters

Parameter	Type	Description
payload	AemSetChangeDataRetentionBarrierReq	**Payload for Setting a Retention Barrier:** retention_point=*timestamp* application=*application_name* Where: • *timestamp* is the date up to which partitions can be deleted. The timestamp must be in the following format: (yyyy'-'MM'-'dd'T'HH':'mm':'ss'Z'). • *application_name* is the name of the consuming application. **Example:** retention_point=2020-06-30T16:15:00Z application=Compose **Payload for Removing the Retention Barrier:** retention_point= application=*application_name* Where *application_name* is the name of the consuming application.
server	string	The name of the server on which the task is running.
task	string	The name of the task.

Error response

Error responses

Error	Message	Description
AEM_TASK_NOT_ FOUND	Replication task {task} on server {server} could not be found.	Returned when an unknown task name is encountered.

Error	Message	Description
AEM_INVALID_ TIMESTAMP_ FORMAT	The specified partition retention barrier does not conform to the expected timestamp format. Timestamp format should be yyyy'-'MM'-'dd'T'HH':'mm':'ss'Z'.	Returned when the specified partition retention barrier does not conform to the expected timestamp format.
AEM_SET_ CHANGE_DATA_ RETENTION_ BARRIER_INNER_ ERR	Failed to set change data retention barrier for task {task} on server {server}. Message: {error_message}	Returned when an error is encountered when trying to set the retention barrier.

4.38   get_change_data_retention_barrier

Returns the date of the earliest partition retention barrier when multiple partition retention barriers have been set.

When different retention barriers have been set by multiple consuming applications, Replicate will delete old Change Data partitions up to the earliest partition retention barrier.

For information on setting a partition retention barrier, see *set_change_data_retention_barrier (page 281)*.

Required User Role: See *Required Enterprise Manager permissions (page 291)*.

Syntax

```
public AemGetChangeDataRetentionBarrierResp GetChangeDataRetentionBarrier(
string server,
string task
);
```

Parameters

Parameters

Parameter	Type	Description
server	string	The name of the server on which the task is running.
task	string	The name of the task.

Response

Response parameters

Name	Type	Description
application	string	The name of the consuming application that set the earliest partition retention barrier.
retention_ point	`datetime` Format: yyyy'-'MM'-'dd'T'HH':'mm':'ss'Z'	The date of the earliest partition retention barrier.

Error response

Error responses

Error	Message	Description
AEM_TASK_NOT_FOUND	Replication task {task} on server {server} could not be found.	Returned when an unknown task name is encountered.
AEM_GET_CHANGE_ DATA_RETENTION_ BARRIER_INNER_ERR	Failed to get change data retention barrier for task {task} on server {server}. Message: {error_message}	Returned when an error is encountered while attempting to get the earliest partition retention barrier.

4.39 Parameters

The following table lists all parameters used in the response body, along with their values.

Parameters

Parameter Name	Value / Description
Server State	• **MONITORED**: The server is being monitored, the Qlik Enterprise Manager is connected and synchronized successfully. • **ERROR**: Qlik Enterprise Manager fails to connect and monitor the server. • **NOT_MONITORED**: The server is not being monitored.
Server Platform	• **WINDOWS** • **LINUX**
License State	• **LICENSE_VALID** • **LICENSE_INVALID_CHECKSUM** • **LICENSE_EXPIRED NO_LICENSE** • **MACHINE_NOT_LICENSED** • **INVALID_LICENSE**
Endpoint Role	Specifies whether an endpoint is being used as a source or a target in a Replicate task. • **SOURCE** • **TARGET**

Parameter Name	Value / Description
Task State	• **RUNNING**: The task is running. • **STOPPED**: The task has not been run yet or has stopped running at some point during the replication. • **ERROR**: The task has stopped due to a fatal error. • **RECOVERING**: The task has detected an error and is trying to recover. After a limited number of attempts, the task either recovers and the state returns to **RUNNING**, or the task fails and the state turns to **ERROR**.
Task options	• **full_load_enabled [bool]**: Creates all files or tables at the target endpoint, automatically defines the metadata that is required at the target, and populates the tables with data from the source. • **apply_changes_enabled [bool]**: Updates all changes made to files and tables that were created during the full load. Applied changes include inserts, updates, and removal of items. • **store_changes_enabled [bool]**: Stores changes in Change tables. This value and the audit_changes_enabled value are mutually exclusive. • **audit_changes_enabled [bool]**: Stores changes in a single audit table. This value and the store_changes_enabled_value are mutually exclusive.
Task Stop reason	• **NONE**: Indicates that a task is running and no Stop reason is prevalent. • **NORMAL**: Indicates that the task was stopped by the user. • **RECOVERABLE_ERROR**: Indicates that the task is still active, but that there is a temporary problem, such as a missing connection. As soon as the error state is resolved, Replicate restarts the task. • **FATAL ERROR**: Indicates that the task stopped and the error must be resolved manually. The task cannot be started again until the error has been resolved. • **FULL_LOAD_ONLY_FINISHED**: Indicates that the task only finished full load. • **STOPPED_AFTER_FULL_LOAD**: Indicates that the task stopped after full load. Cached changes may or may not have been applied. • **STOPPED_AFTER_CACHED_EVENTS**: Indicates that the task stopped after cached changes were applied. • **EXPRESS_LICENSE_LIMITS_REACHED**: The task definition includes actions that are not included with Express license privileges. • **STOPPED AFTER_DDL_APPLY**: Indicates that the task stopped after DDL statements were applied. • **STOPPED_LOW_MEMORY**: Indicates that the task stopped due to low memory. • **STOPPED_LOW_DISK**: Indicates that the task stopped due to low disk space.

Parameter Name	Value / Description
Source/target status	• **RUNNING**: The endpoint is running. • **ERROR**: File channel only. Cannot send files to another endpoint. Indicated by an asterisk (*) in the user interface. • **DISCONNECTED**: Information that is provided by all targets and Oracle sources that cannot establish a successful connection. Other sources stop the task. Indicated by an asterisk (*) in the user interface. • **WARNING**: The target is applying changes one by one instead of bulk to find the problem. Indicatedby an asterisk (*) in the user interface.
Profile	• **Unidirectional**: A Replicate task that replicates from a source endpoint to a target endpoint. • **Bidirectional**: A Replicate task that replicates changes from the source to the target, and vice versa. • **Log Stream**: A Replicate task that captures changes from a single source and stores them on Replicate Server for replication to one or more targets. • **Data Storage:** A data storage task in a Compose Data Lake project. • **Data Warehouse:** A data warehouse task in a Compose Data Warehouse project. • **Data Mart:** A data mart task in a Compose Data Warehouse project. • **Compactor:** A Compose system task that merges the changes (i.e. history) from the **delta_hds** folder with the **hds** folder and then deletes the **delta_hds** folder. • **Workflow:** A workflow task in Compose.
Source type	Source and target endpoint types should be specified in the same format that they appear in the **Type** drop-down list (when adding a new endpoint in Enterprise Manager). For information on how to add an endpoint in Enterprise Manager, refer to the *Enterprise Manager* Setup and User Guide.
Target type	-

Parameter Name	Value / Description
Run options	**RESUME_PROCESSING**: Resumes task execution from the point that it was stopped. **RELOAD_TARGET**: Re-starts the full-load replication process if the task was previously run. **RESUME_PROCESSING_FROM_TIMESTAMP**: Starts the CDC replication task from a specific point. **RESUME_PROCESSING_FROM_POSITION**: The position in the log (e.g. SCN or LSN) from where to resume change processing. The source change position format differs according to your source endpoint. **RECOVER_USING_LOCALLY_STORED_CHECKPOINT**: Recovers a task using the recovery state stored locally in the task folder (located under the Data folder). **RECOVER_USING_CHECKPOINT_STORED_ON_TARGET**: Recovers a task using the CHECKPOINT value from the `attrep_txn_state` table (created in the target database). *This option is only available if the **Store task recovery data in target database** option is enabled in the **Changes Processing Tuning** tab of the **Task Settings** dialog box.* **METADATA_ONLY_RECREATE_ALL_TABLES**: Recreates the target tables defined for full load. **METADATA_ONLY_CREATE_MISSING_TABLES**: Creates missing target tables, including Change Tables.
Request state	**SUCCESS**: Connection to endpoint is valid **FAILURE**: Connection to endpoint is not valid
state	Represented as enum values: **TABLE_QUEUED** = 0: A table awaiting loading. **TABLE_LOADING** = 1: A table being loaded to the target. **TABLE_COMPLETED** = 2: A table that has been loaded to the target. **TABLE_CHANGE_PROCESSING** = 3: A table that has been loaded to the target and is being updated according to changes on the source. **TABLE_ERROR** = 4: An error occurred while processing the table.
Table type	Represented as enum values: **TABLE** = 1 **VIEW** = 2

Parameter Name	Value / Description
Load order	Represented as enum values: • **LOWEST** = -2147483647; • **LOWER** = -5000; • **LOW** = -1000; • **NORMAL** = 0; • **HIGH** = 1000; • **HIGHER** = 5000; • **HIGHEST** = 2147483647;

A   Reconfiguring endpoints

The Qlik Enterprise Manager SDK provides a method for overriding the source endpoint settings in a Replicate task with settings from another endpoint of the same type. Such functionality may be useful in the event of database failover or when migrating to a different environment, for example.

Using this method requires you to set up relevant Qlik Replicate task(s) with three separate source endpoints - two inactive source endpoints defined with the primary and secondary database connection settings, and one active source endpoint (initially defined with the primary database connection settings).

Full instructions are provided in *Setting up the Replicate task (page 289)* and *Switching to the secondary Replicate endpoint (page 290)* below.

In this appendix, the term "Primary" denotes the database in use before the switchover, whereas the term "Secondary" denotes the database in use after the switchover.

> *Supported with the Oracle source endpoint only.*

The method name differs according to the SDK type:

- **REST SDK:** AEMReconfigureEndpointNoWait
- **.NET SDK:** ReconfigureEndpointNoWait
- **Python SDK:** reconfigure_endpoint_no_wait

A.1   Setting up the Replicate task

To use this method, you need to define three separate endpoints:

- **Endpoint 1:** Points to the primary database.
- **Endpoint 2:** Points to the secondary database.
- **Endpoint 3:** This is a duplicate of Endpoint 1. Endpoint 3 serves as the source endpoint for the Replicate task(s) and will be updated with the settings of Endpoint 2 or Endpoint 1 (when reverting to the primary database) when the method is called.

To set up the Replicate task:

> *Before starting the procedure, you need to allocate a name for the source endpoint (referred to as **Endpoint 3** above). This is because the source endpoint name forms part of the primary and secondary endpoint names (referred to above as **Endpoint 1** and **Endpoint 2** respectively), which are defined before the source endpoint.*

1. Define a new endpoint pointing to the primary database and name it using the following format: `EndpointName__ConfigurationName`, for example, **MyOracle__PrimaryOracle**.

where `EndpointName` is the name of the source endpoint and `ConfigurationName` is the name of this endpoint.

2. Set the internal parameter **supportResetLog** in the **Advanced** tab of the endpoint connection settings.

3. Define another endpoint pointing to the secondary database and name it using the following format: `EndpointName__ConfigurationName`, for example, **MyOracle__SecondaryOracle**.
    where `EndpointName` is the name of the source endpoint and `ConfigurationName` is the name of this endpoint.

4. Set the internal parameter **supportResetLog** in the **Advanced** tab of the endpoint connection settings.

5. Define the source endpoint by duplicating the endpoint pointing to the primary database (defined in Step 1). Give it the name that you allocated for it before starting this procedure, for example, **MyOracle**.

6. Set up and run the Replicate task(s) using the source endpoint defined in Step 5 above.

A.2   Switching to the secondary Replicate endpoint

The procedures below explain how to switch to the secondary Replicate endpoint. The first procedure is suitable for most use cases, although you may want to perform the second procedure should you desire to manually stop and resume the Replicate tasks.

Procedure 1: Failover or planned switchover

Make sure that the secondary database has fully taken over and then call the method - using a script (recommended) or manually - with the appropriate parameters.

Procedure 2: Planned switchover with manual control

1. Stop the task(s) using the source endpoint.

2. Switch over to the secondary database.

3. Make sure that the secondary database has fully taken over and then call the method with the appropriate parameters.

4. If the method completes successfully, resume the task(s) manually.

For a description of the parameters, see the section for the SDK you are working with.

A.3   Reverting to the primary Replicate endpoint

To revert to the primary endpoint, you simply need to perform one of the procedures described in *Switching to the secondary Replicate endpoint (page 290)* described above. However, when calling the method, specify the name of the primary endpoint (instead of the secondary endpoint) as the `configuration` parameter.

B   Required Enterprise Manager permissions

This appendix lists the permission(s) required to call each of the documented SDK methods. Note that the method names listed below are in Python format; the actual method name may differ slightly according to the specific SDK (REST, .NET, or Python) you are using.

- **login**: Viewer on Qlik Enterprise Manager level
- **logout**: Viewer on Qlik Enterprise Manager level
- **put_server_license**: Admin on the specified server
- **get_server_details**: Viewer on server
- **put_server**:
    - For adding a new server - Admin on all servers.
    - For updating an existing server - Admin on the specified server.
- **put_server_acl**: Admin on the specified server
- **get_server**: Operator on the specified server
- **get_server_acl**: Operator on the specified server
- **get_server_list**: Viewer on All Servers
- **delete_server**: Admin on the specified server
- **delete_server_acl**: Admin on the specified server
- **get_task_list**: Viewer on All Tasks
- **get_task_details**: Viewer on the specified task
- **get_table_list**: Viewer on the specific task
- **get_table_status**: Viewer on the specific task
- **delete_task**: Designer on the specified task
- **export_task**: Operator on the specified task and on All Endpoints.
- **import_task**: Designer on All Tasks. If endpoints are also included, then Designer on All Endpoints as well.
- **stop_task**: Operator on the specified task
- **run_task**: Operator on the specified task
- **get_endpoint_list**: Viewer on All Endpoints
- **patch_endpoint**: Designer on All Endpoints
- **delete_endpoint**: Designer on the specified endpoint
- **reconfigure_endpoint_no_wait**: Operator on All Endpoints
- **export_all**: Admin on Enterprise Manager and on the specified server, Designer on All Tasks, and Operator on All Endpoints
- **import_all**: Admin on Enterprise Manager and on the specified server, Designer on All Tasks, and Designer on All Endpoints
- **reload_table**: Operator on the specified task
- **resume_table**: Operator on the specified task
- **test_endpoint**: Operator on the specified endpoint
- **delete_old_change_data**: Operator on the specified task

- **set_change_data_retention_barrier**: Operator on the specified task
- **get_change_data_retention_barrier**: Operator on the specified task
- **export_audit_trail**: Admin on Enterprise Manager
- **GetTaskTableSelection:** Viewer on Enterprise Manager
- **PutTaskTableSelection:** Admin on Enterprise Manager
- **CloneTask:** Operator on Enterprise Manager