

Open Exchange Rates API Data Model

for use with Invantive SQL

24.0

invantive
the SQL company

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This manual is a reference guide intended to clarify usage. If data in the sample images match data in your system, the similarity is coincidental.

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Contents

1 SQL Driver for Open Exchange Rates API 1

2 SQL Driver Attributes for Open Exchange Rates API 2

3 Schema: Native 14

3.1 Tables 14

3.1.1 NATIVEPLATFORMSCALARREQUESTS: Open Exchange Rates Native Platform Scalar Requests 14

4 Schema: OpenExchangeRates 15

4.1 Tables 15

4.1.1 ConvertAmount: Open Exchange Rates Convert Amount 15

4.1.2 Currencies: Open Exchange Rates Currencies 16

4.1.3 HistoricalRatesByDateAndBase 22

4.1.4 LatestRatesByBase 24

4.1.5 OpenHighLowClose: Open Exchange Rates Exchange Rates across a Day: Open, High, Low and Close 25

4.1.6 RateTimeSeriesByDateRangeAndBase: Open Exchange Rates Exchange Rate Time Series by Date Range and Base Currency

4.1.7 Usage: Open Exchange Rates Usage 32

Index 34

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1 SQL Driver for Open Exchange Rates API

Invantive SQL is the fastest, easiest and most reliable way to exchange data with the Open Exchange Rates API.

Use the "Search" option in the left menu to search for a specific term such as the table or column description. When you already know the term, please use the "Index" option. When you can't find the information needed, please click on the Chat button at the bottom or place your question in the user community. Other users or Invantive Support will try to help you to our best.

Open Exchange Rates.

The Open Exchange Rates driver covers 8 tables and 458 columns.

Open Exchange Rates API Clients

Invantive SQL is available on many user interfaces ("clients" in traditional server-client paradigma). All Invantive SQL statements can be exchanged with a close to 100% compatibility across all clients and operating systems (Windows, MacOS, Linux, iOS, Android).

The clients include Microsoft Excel, Microsoft Power BI, Microsoft Power Query, Microsoft Word and Microsoft Outlook. Web-based clients include Invantive Cloud, Invantive Bridge Online as OData proxy, Invantive App Online for interactive apps, Online SQL Editor for query execution and Invantive Data Access Point as extended proxy.

For technical users there are command-line editions of Invantive Data Hub running on iOS, Android, Windows, MacOS and Linux. Invantive Data Hub is also often used for enterprise server applications such as ETL. High-volume replication of data taken from the Open Exchange Rates API into traditional databases such as SQL Server (on-premise and Azure), MySQL, PostgreSQL and Oracle is possible using Invantive Data Replicator. Invantive Data Replicator automatically creates and maintains Open Exchange Rates datawarehouses, possibly in combination with data from over 70 other (cloud) platforms. Data Replicator supports data volumes up to over 1 TB and over 5.000 companies. The on-premise edition of Invantive Bridge offers an Open Exchange Rates ADO.net provider.

Monitor API Calls

When a query or DML-statement has been executed on Invantive SQL a developer can evaluate the actual calls made to the Open Exchange Rates API using a query on sessionios@DataDictionary. As an alternative, extensive request and response logging can be enabled by setting log-native-calls-to-disk to true. In the %USERPROFILE% \Invantive\NativeLog folder Invantive SQL will create log files per API request and response.

Specifications

The SQL driver for Open Exchange Rates does not support partitioning. Define one data container in a database for each company in Open Exchange Rates to enable parallel access for data from multiple companies.

An introduction into the concepts of Invantive SQL such as databases, data containers and partitioning can be found in the Invantive SQL grammar.

The configuration can be changed using various attributes during log on and use. A full list of configuration options is listed in the driver attributes 2.

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The catalog name is used to compose the full qualified name of an object like a table or view. The schema name is used to compose the full qualified name of an object like a table or view. On Open Exchange Rates the comparison of two texts is case sensitive by default.

Changes and bug fixes on the Open Exchange Rates SQL driver can be found in the release notes. There is currently no specific section on the Invantive forums for Open Exchange Rates. Please reach out to other users of Open Exchange Rates by leaving a question or contact request.

Driver code for use in settings.xml: `OpenExchangeRates`

Alias: `openexra`

Recommended alias: `exr`

More technical documentation as provided by the supplier of the Open Exchange Rates API on the native APIconnection used can be found at https://docs.openexchangerates.org/.

General documentation on Open Exchange Rates is available at https://docs.openexchangerates.org/docs

Updated: 15-06-2022 20:38 using Invantive SQL version 22.0.232-PROD+3445.

2 SQL Driver Attributes for Open Exchange Rates API

The SQL driver for Open Exchange Rates has many attributes that can be finetuned to improve handling in scenarios with unreliable network connections to the API server of Open Exchange Rates or high-volumes of data. Also, many drivers have driver-specific attributes to finetune actual behaviour or handle data not matching specifications.

The Open Exchange Rates driver attributes are assigned a default value which seldom requires change. However, changes can be applied when needed on four levels, which are reflected in the table below by separate checkmarks:

- Connection string: the connection string from the settings*.xml file and applied during log on.
- Set SQL statement: a set SQL-statement to be executed once connection has been established.
- Drivers file: the providers.xml file (obsolete starting release 17.32).
- Log on: value to be specified interactively by user during log on in a user interface.

The connection string for Open Exchange Rates can be found in the settings*.xml file used for the database. Settings*.xml files are typically located in the `%USERPROFILE%\invantive` folder in most deployment scenarios. The reference manuals contain instructions how to relocate the settings*.xml files. Each data container of a database in the connection string can have a `connectionString` element specifying the name and values of attributes. Both name and value must be properly escaped according to XML-semantics. Actual application of the value is solely done during log on. A new connection must be established to change the value of a driver attribute using a connection string.

The set SQL statement can be executed after log on. The syntax is: `set NAME VALUE`, or for a distributed database: `set NAME@ALIAS VALUE`. In some scenarios you may need to enclose the driver attribute name in square brackets to escape it from parsing, for instance when a reserved SQL keyword is part of the name. The new value takes effect straight after execution of the set-statement. The set-statement can be executed as often as needed during a session.

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Driver attributes that can be interactively set to a value are typically presented in the log on window. Depending on the platform and design decisions of the user interface designer, some or all of the available driver attributes can have been made available.

The Open Exchange Rates driver can be configured using the following attributes:

Code	Description	Origin	Default Value	Set from Connection String	Set from Set SQL-Statement	Set from Drivers File	Set from Log On
add-odata-mandatory-filters	Whether to automatically add OData filters deemed necessary by the platform.	OData	False	✓	✓	✓	
analysis-enforce-row-uniqueness	Use for analysis only! Enforce rows to be unique.	Shared	False	✓	✓	✓	
api-url	URL to access the API.	OData		✓		✓	
bulk-delete-page-size-rows	Number of rows to delete per batch when bulk deleting	Shared	10000	✓	✓	✓	
bulk-insert-page-size-bytes	Approximate maximum size in bytes of batch when bulk inserting	Shared	10000000	✓	✓	✓	
bulk-insert-page-size-rows	Number of rows to insert per batch when bulk inserting	Shared	250	✓	✓	✓	
download-error-400-bad-request-max-tries	Maximum number of tries when OData server reports bad format during retrieval of data.		3	✓	✓	✓	
download-error-400-bad-request-sleep-initial-ms	Initial sleep in milliseconds between retries when OData server reports that the API server is unavailable during retrieval of data.		500	✓	✓	✓	
download-error-400-bad-request-sleep-max-ms	Maximum sleep in milliseconds between retries when OData server reports that the API server is unavailable during retrieval of data.		5000	✓	✓	✓	
download-error-400-bad-request-sleep-multiplicator	Multiplication factor for sleep between retries OData server reports that the API server is unavailable during retrieval of data.		2	✓	✓	✓	
download-error-408-request-timeout-max-tries	Maximum number of tries when the website reports a HTTP status 408.		10	✓	✓	✓	
download-error-408-request-timeout-sleep-initial-ms	Initial sleep in milliseconds between retries when the website reports a HTTP status 408.		10000	✓	✓	✓	
download-error-408-request-timeout-sleep-max-ms	Maximum sleep in milliseconds between retries when the website reports a HTTP status 408.		300000	✓	✓	✓	
download-error-408-request-timeout-sleep-multiplicator	Multiplication factor for sleep between retries when the website reports a HTTP status 408.		2	✓	✓	✓	
download-error-422-bad-request-max-tries	Maximum number of tries when OData server reports unprocessable entity during retrieval of data.		30	✓	✓	✓	
download-error-422-bad-request-	Initial sleep in milliseconds between retries when OData server reports		10000	✓	✓	✓	

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Code	Description	Origin	Default Value	Set from Connection String	Set from Set SQL-Statement	Set from Drivers File	Set from Log On
sleep-initial-ms	unprocessable entity during retrieval of data.						
download-error-422-bad-request-sleep-max-ms	Maximum sleep in milliseconds between retries when OData server reports unprocessable entity during retrieval of data.		300000	✓	✓	✓	
download-error-422-bad-request-sleep-multiplicator	Multiplication factor for sleep between retries OData server reports unprocessable entity during retrieval of data.		2	✓	✓	✓	
download-error-429-too-many-requests-max-tries	Maximum number of tries when the website reports that too many requests have been made during a timeslot of one minute or one day.		10	✓	✓	✓	
download-error-429-too-many-requests-sleep-initial-ms	Initial sleep in milliseconds between retries when the website reports that too many requests have been made during a timeslot of one minute or one day.		10000	✓	✓	✓	
download-error-429-too-many-requests-sleep-max-ms	Maximum sleep in milliseconds between retries when the website reports that too many requests have been made during a timeslot of one minute or one day.		300000	✓	✓	✓	
download-error-429-too-many-requests-sleep-multiplicator	Multiplication factor for sleep between retries when the website reports that too many requests have been made during a timeslot of one minute or one day.		2	✓	✓	✓	
download-error-502-server-unavailable-max-tries	Maximum number of tries when OData server reports a bad gateway during retrieval of data.		30	✓	✓	✓	
download-error-502-server-unavailable-sleep-initial-ms	Initial sleep in milliseconds between retries when OData server reports a bad gateway during retrieval of data.		10000	✓	✓	✓	
download-error-502-server-unavailable-sleep-max-ms	Maximum sleep in milliseconds between retries when OData server reports that a bad gateway during retrieval of data.		300000	✓	✓	✓	
download-error-502-server-unavailable-sleep-multiplicator	Multiplication factor for sleep between retries OData server reports a bad gateway during retrieval of data.		2	✓	✓	✓	
download-error-503-server-unavailable-max-tries	Maximum number of tries when OData server reports that the API server is unavailable during retrieval of data.		30	✓	✓	✓	
download-error-503-server-	Initial sleep in milliseconds between retries when OData server reports		10000	✓	✓	✓	

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Code	Description	Origin	Default Value	Set from Connection String	Set from Set SQL-Statement	Set from Drivers File	Set from Log On
unavailable-sleep-initial-ms	that the API server is unavailable during retrieval of data.						
download-error-503-server-unavailable-sleep-max-ms	Maximum sleep in milliseconds between retries when OData server reports that the API server is unavailable during retrieval of data.		300000	✓	✓	✓	
download-error-503-server-unavailable-sleep-multiplicator	Multiplication factor for sleep between retries OData server reports that the API server is unavailable during retrieval of data.		2	✓	✓	✓	
download-error-504-gateway-timeout-max-tries	Maximum number of tries when the website reports a gateway timeout.		10	✓	✓	✓	
download-error-504-gateway-timeout-sleep-initial-ms	Initial sleep in milliseconds between retries when the website reports a gateway timeout.		10000	✓	✓	✓	
download-error-504-gateway-timeout-sleep-max-ms	Maximum sleep in milliseconds between retries when the website reports a gateway timeout.		300000	✓	✓	✓	
download-error-504-gateway-timeout-sleep-multiplicator	Multiplication factor for sleep between retries when the website reports a gateway timeout.		2	✓	✓	✓	
download-error-590-network-connect-timeout-max-tries	Maximum number of tries when the website reports a HTTP status 590.		10	✓	✓	✓	
download-error-590-network-connect-timeout-sleep-initial-ms	Initial sleep in milliseconds between retries when the website reports a HTTP status 590.		10000	✓	✓	✓	
download-error-590-network-connect-timeout-sleep-max-ms	Maximum sleep in milliseconds between retries when the website reports a HTTP status 590.		300000	✓	✓	✓	
download-error-590-network-connect-timeout-sleep-multiplicator	Multiplication factor for sleep between retries when the website reports a HTTP status 590.		2	✓	✓	✓	
download-error-599-network-connect-timeout-max-tries	Maximum number of tries when the website reports a HTTP status 599.		10	✓	✓	✓	
download-error-599-network-connect-timeout-sleep-initial-ms	Initial sleep in milliseconds between retries when the website reports a HTTP status 599.		10000	✓	✓	✓	
download-error-599-network-	Maximum sleep in milliseconds between retries when the website		300000	✓	✓	✓	

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Code	Description	Origin	Default Value	Set from Connection String	Set from Set SQL-Statement	Set from Drivers File	Set from Log On
connect-timeout-sleep-max-ms	reports a HTTP status 599.						
download-error-599-network-connect-timeout-sleep-multiplicator	Multiplication factor for sleep between retries when the website reports a HTTP status 599.		2	✓	✓	✓	
download-error-argument-exception-max-tries	Maximum number of tries when an argument exception is returned when downloading a blob.		10	✓	✓	✓	
download-error-argument-exception-sleep-initial-ms	Initial sleep in milliseconds between retries when an argument exception is returned when downloading a blob.		10000	✓	✓	✓	
download-error-argument-exception-sleep-max-ms	Maximum sleep in milliseconds between retries when an argument exception is returned when downloading a blob.		300000	✓	✓	✓	
download-error-argument-exception-sleep-multiplicator	Multiplication factor for sleep between retries when an argument exception is returned when downloading a blob.		2	✓	✓	✓	
download-error-internet-down-max-tries	Maximum number of tries when the Internet connection seems down during retrieval of data.		10	✓	✓	✓	
download-error-internet-down-sleep-initial-ms	Initial sleep in milliseconds between retries when the Internet connection seems down during retrieval of data.		10000	✓	✓	✓	
download-error-internet-down-sleep-max-ms	Maximum sleep in milliseconds between retries when the Internet connection seems down during retrieval of data.		300000	✓	✓	✓	
download-error-internet-down-sleep-multiplicator	Multiplication factor for sleep between retries when the Internet connection seems down during retrieval of data.		2	✓	✓	✓	
download-error-io-exception-max-tries	Maximum number of tries when a network I/O connection failure occurs during retrieval of data.		10	✓	✓	✓	
download-error-io-exception-sleep-initial-ms	Initial sleep in milliseconds between retries when a network I/O connection failure occurs during retrieval of data.		10000	✓	✓	✓	
download-error-io-exception-sleep-max-ms	Maximum sleep in milliseconds between retries when a network I/O connection failure occurs during retrieval of data.		300000	✓	✓	✓	
download-error-io-exception-sleep-multiplicator	Multiplication factor for sleep between retries when a network I/O connection failure occurs during retrieval of data.		2	✓	✓	✓	

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Code	Description	Origin	Default Value	Set from Connection String	Set from Set SQL-Statement	Set from Drivers File	Set from Log On
download-error-json-exception-max-tries	Maximum number of tries when an invalid JSON body is returned.		3	✓	✓	✓	
download-error-json-exception-sleep-initial-ms	Initial sleep in milliseconds between retries when an invalid JSON body is returned.		1000	✓	✓	✓	
download-error-json-exception-sleep-max-ms	Maximum sleep in milliseconds between retries when an invalid JSON body is returned.		10000	✓	✓	✓	
download-error-json-exception-sleep-multiplicator	Multiplication factor for sleep between retries when an invalid JSON body is returned.		2	✓	✓	✓	
download-error-other-exception-max-tries	Maximum number of tries when an unqualified error occurs during retrieval of data.		3	✓	✓	✓	
download-error-other-exception-sleep-initial-ms	Initial sleep in milliseconds between retries when an unqualified error ocurrs during retrieval of data.		10000	✓	✓	✓	
download-error-other-exception-sleep-max-ms	Maximum sleep in milliseconds between retries when an unqualified error ocurrs during retrieval of data.		300000	✓	✓	✓	
download-error-other-exception-sleep-multiplicator	Multiplication factor for sleep between retries when an unqualified error ocurrs during retrieval of data.		2	✓	✓	✓	
download-error-socket-exception-max-tries	Maximum number of tries when the network connection is forcible dropped during retrieval of data.		10	✓	✓	✓	
download-error-socket-exception-sleep-initial-ms	Initial sleep in milliseconds between retries when the network connection is forcible dropped during retrieval of data.		10000	✓	✓	✓	
download-error-socket-exception-sleep-max-ms	Maximum sleep in milliseconds between retries when the network connection is forcible dropped during retrieval of data.		300000	✓	✓	✓	
download-error-socket-exception-sleep-multiplicator	Multiplication factor for sleep between retries when the network connection is forcible dropped during retrieval of data.		2	✓	✓	✓	
download-error-web-exception-max-tries	Maximum number of tries when a web connection failure occurs during retrieval of data.		10	✓	✓	✓	
download-error-web-exception-sleep-initial-ms	Initial sleep in milliseconds between retries when a web connection failure occurs during retrieval of data.		10000	✓	✓	✓	
download-error-web-exception-sleep-max-ms	Maximum sleep in milliseconds between retries when a web connection failure occurs during retrieval of data.		300000	✓	✓	✓	

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Code	Description	Origin	Default Value	Set from Connection String	Set from Set SQL-Statement	Set from Drivers File	Set from Log On
download-error-web-exception-sleep-multiplicator	Multiplication factor for sleep between retries when a web connection failure occurs during retrieval of data.		2	✓	✓	✓	
download-error-web-not-implemented-max-tries	Maximum number of tries when the connection reports not implemented.		1	✓	✓	✓	
download-error-web-not-implemented-sleep-initial-ms	Initial sleep in milliseconds between retries when the connection reports not implemented.		10000	✓	✓	✓	
download-error-web-not-implemented-sleep-max-ms	Maximum sleep in milliseconds between retries when the connection reports not implemented.		300000	✓	✓	✓	
download-error-web-not-implemented-sleep-multiplicator	Multiplication factor for sleep between retries when the connection reports not implemented.		2	✓	✓	✓	
download-error-web-timeout-max-tries	Maximum number of tries when the connection reports a timeout.		10	✓	✓	✓	
download-error-web-timeout-sleep-initial-ms	Initial sleep in milliseconds between retries when the connection reports a timeout.		1000	✓	✓	✓	
download-error-web-timeout-sleep-max-ms	Maximum sleep in milliseconds between retries when the connection reports a timeout.		30000	✓	✓	✓	
download-error-web-timeout-sleep-multiplicator	Multiplication factor for sleep between retries when the connection reports a timeout.		2	✓	✓	✓	
download-error-web-unauthorized-max-tries	Maximum number of tries when the connection reports an unauthorized error.		1	✓	✓	✓	
download-error-web-unauthorized-sleep-initial-ms	Initial sleep in milliseconds between retries when the connection reports an unauthorized error.		10000	✓	✓	✓	
download-error-web-unauthorized-sleep-max-ms	Maximum sleep in milliseconds between retries when the connection reports an unauthorized error.		300000	✓	✓	✓	
download-error-web-unauthorized-sleep-multiplicator	Multiplication factor for sleep between retries when the connection reports an unauthorized error.		2	✓	✓	✓	
force-case-sensitive-identifiers	Consider identifiers as case-sensitive independent of the platform capabilities.	Shared	False	✓	✓	✓	
forced-casing-identifiers	Forced casing of identifiers. Choose from Unset, Lower, Upper and	Shared		✓	✓	✓	

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Code	Description	Origin	Default Value	Set from Connection String	Set from Set SQL-Statement	Set from Drivers File	Set from Log On
	Mixed.						
http-disk-cache-compression-level	Compression level for the HTTP disk cache, ranging from 1 (little) to 9 (intense). Default is 5.	Shared	5	✓	✓	✓	
http-disk-cache-directory	Directory where HTTP cache is stored.	Shared	C:\Users\gle3.WS212\Invantive\Cache\http\gle3\shared	✓	✓	✓	
http-disk-cache-ignore-write-errors	Whether to ignore write errors to disk cache.	Shared	False	✓	✓	✓	
http-disk-cache-max-age-sec	Maximum acceptable age in seconds for use of data in the HTTP disk cache.	Shared	2592000	✓	✓	✓	
http-get-timeout-max-ms	HTTP GET maximum timeout on retry (ms).		300000	✓	✓	✓	
http-get-timeout-ms	HTTP GET timeout (ms).		60000	✓	✓	✓	
http-memory-cache-compression-level	Compression level for the HTTP memory cache, ranging from 1 (little) to 9 (intense). Default is 5.	OData	5	✓	✓	✓	
http-memory-cache-max-age-sec	Maximum acceptable age in seconds for use of data in the HTTP memory cache.	OData	14400	✓	✓	✓	
http-post-timeout-max-ms	HTTP POST maximum timeout on retry (ms).		300000	✓	✓	✓	
http-post-timeout-ms	HTTP POST timeout (ms).		300000	✓	✓	✓	
ignore-http-400-errors	Ignore HTTP 400 errors when exchanging results with the OData endpoint.		False	✓	✓	✓	
ignore-http-401-errors	Ignore HTTP 401 errors when exchanging results with the OData endpoint.		False	✓	✓	✓	
ignore-http-402-errors	Ignore HTTP 402 errors when exchanging results with the OData endpoint.		False	✓	✓	✓	
ignore-http-403-errors	Ignore HTTP 403 errors when exchanging results with the OData endpoint.		False	✓	✓	✓	
ignore-http-404-errors	Ignore HTTP 404 errors when exchanging results with the OData endpoint.		False	✓	✓	✓	
ignore-http-422-errors	Ignore HTTP 422 errors when exchanging results with the OData endpoint.		False	✓	✓	✓	
ignore-http-429-errors	Ignore HTTP 429 errors when exchanging results with the OData endpoint.		False	✓	✓	✓	

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Code	Description	Origin	Default Value	Set from Connection String	Set from Set SQL-Statement	Set from Drivers File	Set from Log On
ignore-http-500-errors	Ignore HTTP 500 errors when exchanging results with the OData endpoint.		False	✓	✓	✓	
ignore-http-502-errors	Ignore HTTP 502 errors when exchanging results with the OData endpoint.		False	✓	✓	✓	
ignore-http-503-errors	Ignore HTTP 503 errors when exchanging results with the OData endpoint.		False	✓	✓	✓	
invalid-json-on-get-max-tries	Maximum number of tries when the JSON received on GET is invalid.		10	✓	✓	✓	
invalid-json-on-get-sleep-initial-ms	Initial sleep in milliseconds between retries when the JSON received on GET is invalid.		10000	✓	✓	✓	
invalid-json-on-get-sleep-max-ms	Maximum sleep in milliseconds between retries when the JSON received on GET is invalid.		300000	✓	✓	✓	
invalid-json-on-get-sleep-multiplicator	Multiplication factor for sleep between retries when the JSON received on GET is invalid.		2	✓	✓	✓	
invalid-json-on-post-max-tries	Maximum number of tries when the JSON received on POST is invalid.		1	✓	✓	✓	
invalid-json-on-post-sleep-initial-ms	Initial sleep in milliseconds between retries when the JSON received on POST is invalid.		10000	✓	✓	✓	
invalid-json-on-post-sleep-max-ms	Maximum sleep in milliseconds between retries when the JSON received on POST is invalid.		300000	✓	✓	✓	
invalid-json-on-post-sleep-multiplicator	Multiplication factor for sleep between retries when the JSON received on POST is invalid.		2	✓	✓	✓	
invantive-sql-compress-sparse-arrays	Whether to compress sparse arrays in result sets during compression.	SQL Engine V1	True	✓	✓	✓	
invantive-sql-correct-invalid-date	Whether to correct dates considered invalid since they are before 01-01-1753. When nullable, they are removed. Otherwise they are replaced by 01-01-1753.	SQL Engine V1	False	✓	✓	✓	
invantive-sql-forward-filters-to-data-containers	Whether to forward filters to data containers.	SQL Engine V1	True	✓	✓	✓	
invantive-sql-share-byte-arrays	Whether to share the memory used by identical byte arrays in result sets during compression.	SQL Engine V1	True	✓	✓	✓	
invantive-sql-share-strings	Whether to share the memory used by identical strings in result sets during compression.	SQL Engine V1	True	✓	✓	✓	
invantive-sql-shuffle-fetch-	Whether to shuffle results fetched from data containers.	SQL Engine V1	False	✓	✓	✓	

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Code	Description	Origin	Default Value	Set from Connection String	Set from Set SQL-Statement	Set from Drivers File	Set from Log On
results-data-containers							
invantive-use-cache	Whether to cache the results of a query.	SQL Engine V1	True	✓	✓	✓	
join-set-points-per-request	Maximum number of values in a request when executing a join set.	OData	60	✓	✓	✓	
limit-partition-calls-left	Minimum number of remaining API calls on a partition towards a hard limit. When below, an error is raised.	OData	500	✓	✓	✓	
log-native-calls-to-disk-max-events	Maximum number of events to register from last activation.	Shared		✓	✓	✓	
log-native-calls-to-disk-max-seconds	Maximum number of seconds to register from last activation.	Shared		✓	✓	✓	
log-native-calls-to-disk-on-error	Registers native calls to data container backend as disk files when an error occurred.	Shared	False	✓	✓	✓	
log-native-calls-to-disk-on-success	Registers native calls to data container backend as disk files when successful.	Shared	False	✓	✓	✓	
log-native-calls-to-trace	Log native calls to data container backend on the trace.	Shared	False	✓	✓	✓	
maximum-length-identifiers	Non-default maximum length in characters of identifier names.	Shared		✓	✓	✓	
max-odata-filters	The maximum number of OData filter elements.	OData	100	✓	✓	✓	
max-url-length-accepted	The maximum accepted URL length before raising an error.	Shared	8000	✓	✓	✓	
max-url-length-desired	The maximum desired URL length.	Shared	8000	✓	✓	✓	
metadata-cache-max-age-sec	Maximum acceptable age in seconds for re-use of metadata.	OData		✓	✓	✓	
oauth-unauthorized-max-tries	Maximum number of tries when an OAuth exception occurs.	OData	2	✓	✓	✓	
oauth-unauthorized-sleep-initial-ms	Initial sleep in milliseconds between OAuth reauthentication tries when the OAuth authentication fails.	OData	10000	✓	✓	✓	
oauth-unauthorized-sleep-max-ms	Maximum sleep in milliseconds between OAuth reauthentication tries when the OAuth authentication fails.	OData	1000	✓	✓	✓	
oauth-unauthorized-sleep-multiplicator	Multiplication factor for sleep between OAuth reauthentication tries when the OAuth authentication fails.	OData	2	✓	✓	✓	
partition-slot-based-rate-limit-length-ms	Total length in ms across all slots of a partition-based rate limit.	Shared	60000	✓		✓	
partition-slot-based-rate-limit-slots	Number of slots per partition-based rate limit. Null means no slot-based	Shared		✓		✓	

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Code	Description	Origin	Default Value	Set from Connection String	Set from Set SQL-Statement	Set from Drivers File	Set from Log On
	rate limit						
pre-request-delay-ms	Pre-request delay in milliseconds per request.	Shared	0	✓	✓	✓	
requested-page-size	Preferred number of rows to exchange per round trip; only effective on limited platforms such as AFAS Online	Shared		✓	✓	✓	
requests-parallel-max	Maximum number of parallel data requests from individual partitions on the data container.	Shared	32	✓	✓	✓	
simulate-http-400-errors	Simulate HTTP 400 errors when exchanging results with the OData endpoint.		False	✓	✓	✓	
simulate-http-400-errors-percentage	Percentage of simulated HTTP 400 errors when exchanging results with the OData endpoint.		0	✓	✓	✓	
simulate-http-401-errors	Simulate HTTP 401 errors when exchanging results with the OData endpoint.		False	✓	✓	✓	
simulate-http-401-errors-percentage	Percentage of simulated HTTP 401 errors when exchanging results with the OData endpoint.		0	✓	✓	✓	
simulate-http-403-errors	Simulate HTTP 403 errors when exchanging results with the OData endpoint.		False	✓	✓	✓	
simulate-http-403-errors-percentage	Percentage of simulated HTTP 403 errors when exchanging results with the OData endpoint.		0	✓	✓	✓	
simulate-http-408-errors	Simulate HTTP 408 errors when exchanging results with the OData endpoint.		False	✓	✓	✓	
simulate-http-408-errors-percentage	Percentage of simulated HTTP 408 errors when exchanging results with the OData endpoint.		0	✓	✓	✓	
simulate-http-429-errors	Simulate HTTP 429 errors when exchanging results with the OData endpoint.		False	✓	✓	✓	
simulate-http-429-errors-percentage	Percentage of simulated HTTP 429 errors when exchanging results with the OData endpoint.		0	✓	✓	✓	
simulate-http-500-errors	Simulate HTTP 500 errors when exchanging results with the OData endpoint.		False	✓	✓	✓	
simulate-http-500-errors-percentage	Percentage of simulated HTTP 500 errors when exchanging results with the OData endpoint.		0	✓	✓	✓	
simulate-http-502-errors	Simulate HTTP 502 errors when exchanging results with the OData endpoint.		False	✓	✓	✓	

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Code	Description	Origin	Default Value	Set from Connection String	Set from Set SQL-Statement	Set from Drivers File	Set from Log On
simulate-http-502-errors-percentage	Percentage of simulated HTTP 502 errors when exchanging results with the OData endpoint.		0	✓	✓	✓	
simulate-http-503-errors	Simulate HTTP 503 errors when exchanging results with the OData endpoint.		False	✓	✓	✓	
simulate-http-503-errors-percentage	Percentage of simulated HTTP 503 errors when exchanging results with the OData endpoint.		0	✓	✓	✓	
simulate-http-protocol-errors	Simulate HTTP protocol errors when exchanging results with the OData endpoint.		False	✓	✓	✓	
simulate-http-protocol-errors-percentage	Percentage of simulated HTTP protocol errors when exchanging results with the OData endpoint.		0	✓	✓	✓	
simulate-http-timeout-errors	Simulate HTTP timeout errors when exchanging results with the OData endpoint.		False	✓	✓	✓	
simulate-http-timeout-errors-percentage	Percentage of simulated HTTP timeout errors when exchanging results with the OData endpoint.		0	✓	✓	✓	
slot-based-rate-limit-length-ms	Total length in ms across all slots of a slot-based rate limit.	Shared	60000	✓		✓	
slot-based-rate-limit-slots	Number of slots of a slot-based rate limit. Null means no slot-based rate limit	Shared		✓		✓	
standardize-identifiers	Rewrite all identifiers to the preferred standards as configured by standardize-identifiers-casing and maximum-length-identifiers.	Shared	True	✓	✓	✓	
standardize-identifiers-casing	Rewrite all identifiers to the recommended standard platform-specific casing when changing a data model on a case-dependent platform.	Shared	True	✓	✓	✓	
use-batch-insert	Whether to use batch insert.	OData	True	✓	✓	✓	
use-http-disk-cache-read	Whether to use HTTP responses from previous queries stored on disk to answer the current query.	Shared	True	✓	✓	✓	
use-http-disk-cache-write	Whether to memorize HTTP responses on disk.	Shared	True	✓	✓	✓	
use-http-memory-cache-read	Whether to use HTTP responses from previous queries stored in memory that can answer the current query.	OData	True	✓	✓	✓	
use-http-memory-cache-write	Whether to memorize HTTP responses from previous queries for use by future queries.	OData	True	✓	✓	✓	

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3 Schema: Native

3.1 Tables

3.1.1 NATIVEPLATFORMSCALARREQUESTS: Open Exchange Rates Native Platform Scalar Requests

Direct access to native API.

Catalog: OpenExchangeRates

Schema: Native

Alias: `npt`

Label: Native Platform Scalar Requests

Documentation:

The NativePlatformScalarRequests table provides direct access to the native API protocol over an established connection to the Open Exchange Rates API server. It will contain a new row for every row inserted with a native API request in PAYLOAD_TEXT with the results of unaltered forwarding of the payload to the Open Exchange Rates API server.

Retrieve: true

Insert: true

Update: false

Delete: false

View Columns

The columns of the view `NATIVEPLATFORMSCALARREQUESTS` are shown below. Each column has an SQL data type. A new non-null value must be provided for every required column at all times during insert.

Name	Data Type	Label	Required	Documentation
BLOB_PREFERRED	boolean	BLOB Preferred	☑	Indicator whether a BLOB result is preferred over text.
BOL_RESPONSE_CACHE_MAX_AGE_SEC	int32	Response Cache Maximum Age (sec)	☐	Maximum age in seconds of Bridge Online response cache entries to be used.
CONTENT_TYPE	string(240)	Content Type	☐	
DATE_ENDED	datetime	End Date	☑	
DATE_STARTED	datetime	Start Date	☑	
DRY_RUN	boolean	Run without Actions	☑	
DURATION_MS	int32	Duration (ms)	☑	
ERROR_MESSAGE_CODE	string(30)	Error Message Code	☐	
ERROR_MESSAGE_TEXT	string(32000)	Error Message Text	☐	
FAIL_ON_ERROR	boolean	Fail on Error	☑	Whether to raise an exception when processing the native request triggered an error from the provider.
HTTP_DISK_CACHE_MAX_AGE_SEC	int32	HTTP Disk Cache Maximum Age (sec)	☐	Maximum age in seconds of HTTP disk cache entries to be used.

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Name	Data Type	Label	Required	Documentation
HTTP_DISK_CACHE_SAVE	boolean	Save HTTP Disk Cache	☐	Whether results can be stored in HTTP disk cache.
HTTP_DISK_CACHE_USE	boolean	Use HTTP Disk Cache	☐	Whether results can be fetched from HTTP disk cache.
HTTP_MEMORY_CACHE_MAX_AGE_SEC	int32	HTTP Memory Cache Maximum Age (sec)	☐	Maximum age in seconds of HTTP memory cache entries to be used.
HTTP_MEMORY_CACHE_SAVE	boolean	Save HTTP Memory Cache	☐	Whether results can be stored in HTTP memory cache.
HTTP_MEMORY_CACHE_USE	boolean	Use HTTP Memory Cache	☐	Whether results can be fetched from HTTP memory cache.
HTTP_METHOD	string(30)	HTTP Method	☐	
HTTP_STATUS_CODE	int16	HTTP Status Code	☐	
ORIG_SYSTEM_GROUP	string(4000)	Original System Group	☐	
ORIG_SYSTEM_REFERENCE	string(4000)	Original System Reference	☐	
PAYLOAD_TEXT	string	Payload	☐	
RESULT_BLOB	byte[]	Result BLOB	☐	
RESULT_DATE_TIME_UTC	datetime		☐	
RESULT_NUMBER	decimal		☐	
RESULT_TEXT	string	Result Text	☐	
SUCCESSFUL	boolean	Succesful	☑	
TIMEOUT_SEC	int32	Timeout (sec)	☐	Timeout in seconds.
TRANSACTION_ID	int32	Transaction ID	☑	Incrementing ID of the transaction.
URL	string(4000)	URL	☐	

4 Schema: OpenExchangeRates

4.1 Tables

4.1.1 ConvertAmount: Open Exchange Rates Convert Amount

Catalog: OpenExchangeRates

Schema: OpenExchangeRates

Label: Convert Amount

Documentation:

Convert any money value from one currency to another at the latest API rates using the /convert API endpoint. This feature works differently to other endpoints in our API, using a REST-based approach and an alternate response format. Currency conversion requests are currently available for clients on the Unlimited plan.

This is a read-only table function. The Open Exchange Rates API may not support changing the data or the Invantive SQL driver for Open Exchange Rates does not cover it. In the latter case, please use the table `NativePlatformScalarRequests` to upload data to the Open Exchange Rates API.

Select Open Exchange Rates API URL: `convert/{value}/{from}/{to}`

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Insert Open Exchange Rates API URL: `convert/{value}/{from}/{to}`

Update Open Exchange Rates API URL: `convert/{value}/{from}/{to}`

Delete Open Exchange Rates API URL: `convert/{value}/{from}/{to}`

Field Selection Method: NotRequired

Parameters of Table Function

The following parameters can be used to control the behaviour of the table function ConvertAmount. A value must be provided at all times for required parameters, but optional parameters in general do not need to have a value and the execution will default to a pre-defined behaviour. Values can be specified by position and by name. In both cases, all parameters not specified will be treated using their default values.

Value specification by position is done by listing all values from the first to the last needed value. For example with `select * from table(value1, value2, value3)` on a table with four parameters will use the default value for the fourth parameter and the specified values for the first three.

Value specification by name is done by listing all values that require a value. For example with `select * from table(name1 => value1, name3 => value3)` on the same table will use the default values for the second and fourth parameters and the specified values for the first and third.

Name	Data Type	Required	Default Value	Documentation
from	string	☑		The base ('from') currency (3-letter code).
to	string	☑		The target ('to') currency (3-letter code).
value	string	☑		The value to be converted.

Table Function Columns

The columns of the table function `ConvertAmount` are shown below. Each column has an SQL data type.

Name	Data Type	Label	Required	Documentation
amount	decimal	Amount	☐	
from	string	From	☐	
query	string	Query	☐	
rate	decimal	Rate	☐	
response	decimal	Response	☐	
timestamp	datetime		☐	
to	string	To	☐	

4.1.2 Currencies: Open Exchange Rates Currencies

Catalog: OpenExchangeRates

Schema: OpenExchangeRates

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Label: Currencies

Documentation:

List of all currency symbols available from the Open Exchange Rates API, along with their full names, for use in your integration. This list will always mirror the currencies available in the latest rates (given as their 3-letter codes).

This is a read-only table function. The Open Exchange Rates API may not support changing the data or the Invantive SQL driver for Open Exchange Rates does not cover it. In the latter case, please use the table `NativePlatformScalarRequests` to upload data to the Open Exchange Rates API.

Select Open Exchange Rates API URL: `currencies.json?show_alternative={show_alternative}`

Insert Open Exchange Rates API URL: `currencies.json?show_alternative={show_alternative}`

Update Open Exchange Rates API URL: `currencies.json?show_alternative={show_alternative}`

Delete Open Exchange Rates API URL: `currencies.json?show_alternative={show_alternative}`

Field Selection Method: NotRequired

Parameters of Table Function

The following parameters can be used to control the behaviour of the table function Currencies. A value must be provided at all times for required parameters, but optional parameters in general do not need to have a value and the execution will default to a pre-defined behaviour. Values can be specified by position and by name. In both cases, all parameters not specified will be treated using their default values.

Value specification by position is done by listing all values from the first to the last needed value. For example with `select * from table(value1, value2, value3)` on a table with four parameters will use the default value for the fourth parameter and the specified values for the first three.

Value specification by name is done by listing all values that require a value. For example with `select * from table(name1 => value1, name3 => value3)` on the same table will use the default values for the second and fourth parameters and the specified values for the first and third.

Name	Data Type	Required	Default Value	Documentation
show_alternative	boolean	☐	True	Include alternative currencies.

Table Function Columns

The columns of the table function `Currencies` are shown below. Each column has an SQL data type.

Name	Data Type	Label	Required	Documentation
AED	string		☐	
AFN	string		☐	

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Name	Data Type	Label	Required	Documentation
ALL	string		☐	
AMD	string		☐	
ANG	string		☐	
AOA	string		☐	
ARS	string		☐	
AUD	string		☐	
AWG	string		☐	
AZN	string		☐	
BAM	string		☐	
BBD	string		☐	
BDT	string		☐	
BGN	string		☐	
BHD	string		☐	
BIF	string		☐	
BMD	string		☐	
BND	string		☐	
BOB	string		☐	
BRL	string		☐	
BSD	string		☐	
BTC	string		☐	
BTN	string		☐	
BTS	string		☐	
BWP	string		☐	
BYN	string		☐	
BZD	string		☐	
CAD	string		☐	
CDF	string		☐	
CHF	string		☐	
CLF	string		☐	
CLP	string		☐	
CNH	string		☐	
CNY	string		☐	
COP	string		☐	
CRC	string		☐	
CUC	string		☐	
CUP	string		☐	
CVE	string		☐	
CZK	string		☐	
DASH	string		☐	
DJF	string		☐	
DKK	string		☐	

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Name	Data Type	Label	Required	Documentation
DOGE	string		☐	
DOP	string		☐	
DZD	string		☐	
EAC	string		☐	
EGP	string		☐	
EMC	string		☐	
ERN	string		☐	
ETB	string		☐	
ETH	string		☐	
EUR	string		☐	
FCT	string		☐	
FJD	string		☐	
FKP	string		☐	
FTC	string		☐	
GBP	string		☐	
GEL	string		☐	
GGP	string		☐	
GHS	string		☐	
GIP	string		☐	
GMD	string		☐	
GNF	string		☐	
GTQ	string		☐	
GYD	string		☐	
HKD	string		☐	
HNL	string		☐	
HRK	string		☐	
HTG	string		☐	
HUF	string		☐	
IDR	string		☐	
ILS	string		☐	
IMP	string		☐	
INR	string		☐	
IQD	string		☐	
IRR	string		☐	
ISK	string		☐	
JEP	string		☐	
JMD	string		☐	
JOD	string		☐	
JPY	string		☐	
KES	string		☐	
KGS	string		☐	

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Name	Data Type	Label	Required	Documentation
KHR	string		☐	
KMF	string		☐	
KPW	string		☐	
KRW	string		☐	
KWD	string		☐	
KYD	string		☐	
KZT	string		☐	
LAK	string		☐	
LBP	string		☐	
LD	string		☐	
LKR	string		☐	
LRD	string		☐	
LSL	string		☐	
LTC	string		☐	
LYD	string		☐	
MAD	string		☐	
MDL	string		☐	
MGA	string		☐	
MKD	string		☐	
MMK	string		☐	
MNT	string		☐	
MOP	string		☐	
MRO	string		☐	
MRU	string		☐	
MUR	string		☐	
MVR	string		☐	
MWK	string		☐	
MXN	string		☐	
MYR	string		☐	
MZN	string		☐	
NAD	string		☐	
NGN	string		☐	
NIO	string		☐	
NMC	string		☐	
NOK	string		☐	
NPR	string		☐	
NVC	string		☐	
NXT	string		☐	
NZD	string		☐	
OMR	string		☐	
PAB	string		☐	

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Name	Data Type	Label	Required	Documentation
PEN	string		☐	
PGK	string		☐	
PHP	string		☐	
PKR	string		☐	
PLN	string		☐	
PPC	string		☐	
PYG	string		☐	
QAR	string		☐	
RON	string		☐	
RSD	string		☐	
RUB	string		☐	
RWF	string		☐	
SAR	string		☐	
SBD	string		☐	
SCR	string		☐	
SDG	string		☐	
SEK	string		☐	
SGD	string		☐	
SHP	string		☐	
SLL	string		☐	
SOS	string		☐	
SRD	string		☐	
SSP	string		☐	
STD	string		☐	
STN	string		☐	
STR	string		☐	
SVC	string		☐	
SYP	string		☐	
SZL	string		☐	
THB	string		☐	
TJS	string		☐	
TMT	string		☐	
TND	string		☐	
TOP	string		☐	
TRY	string		☐	
TTD	string		☐	
TWD	string		☐	
TZS	string		☐	
UAH	string		☐	
UGX	string		☐	
USD	string		☐	

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Name	Data Type	Label	Required	Documentation
UYU	string		☐	
UZS	string		☐	
VEF_BLKMKT	string		☐	
VEF_DICOM	string		☐	
VEF_DIPRO	string		☐	
VEF	string		☐	
VES	string		☐	
VND	string		☐	
VTC	string		☐	
VUV	string		☐	
WST	string		☐	
XAF	string		☐	
XAG	string		☐	
XAU	string		☐	
XCD	string		☐	
XDR	string		☐	
XMR	string		☐	
XOF	string		☐	
XPD	string		☐	
XPF	string		☐	
XPM	string		☐	
XPT	string		☐	
XRP	string		☐	
YER	string		☐	
ZAR	string		☐	
ZMW	string		☐	
ZWL	string		☐	

4.1.3 HistoricalRatesByDateAndBase

Catalog: OpenExchangeRates

Schema: OpenExchangeRates

Documentation:

Provides a standard response object containing all the conversion rates for all available symbols/currencies on your requested date, labeled by their international-standard 3-letter ISO currency codes. Historical data are End-Of-Day values, and are currently available from Jan 1st, 1999.

This is a read-only table function. The Open Exchange Rates API may not support changing the data or the Invantive SQL driver for Open Exchange Rates does not cover it. In the latter case, please use the table `NativePlatformScalarRequests` to upload data to the Open Exchange Rates API.

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Select Open Exchange Rates API URL: `historical/{date}.json?base={base}&show_alternative={show_alternative}`

Insert Open Exchange Rates API URL: `historical/{date}.json?base={base}&show_alternative={show_alternative}`

Update Open Exchange Rates API URL: `historical/{date}.json?base={base}&show_alternative={show_alternative}`

Delete Open Exchange Rates API URL: `historical/{date}.json?base={base}&show_alternative={show_alternative}`

Field Selection Method: NotRequired

Parameters of Table Function

The following parameters can be used to control the behaviour of the table function HistoricalRatesByDateAndBase. A value must be provided at all times for required parameters, but optional parameters in general do not need to have a value and the execution will default to a pre-defined behaviour. Values can be specified by position and by name. In both cases, all parameters not specified will be treated using their default values.

Value specification by position is done by listing all values from the first to the last needed value. For example with `select * from table(value1, value2, value3)` on a table with four parameters will use the default value for the fourth parameter and the specified values for the first three.

Value specification by name is done by listing all values that require a value. For example with `select * from table(name1 => value1, name3 => value3)` on the same table will use the default values for the second and fourth parameters and the specified values for the first and third.

Name	Data Type	Required	Default Value	Documentation
base	string	☐	USD	Change base currency (3-letter code, default: USD)
date	datetime	☑		Date without time.
show_alternative	boolean	☐	True	Extend returned values with alternative, black market and digital currency rates

Table Function Columns

The columns of the table function `HistoricalRatesByDateAndBase` are shown below. Each column has an SQL data type.

Name	Data Type	Label	Required	Documentation
base	string		☐	
name	string		☐	
rate	decimal	Rate	☐	
timestamp_utc	datetime	Timestamp (UTC)	☐	

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4.1.4 LatestRatesByBase

Catalog: OpenExchangeRates

Schema: OpenExchangeRates

Documentation:

Provides a standard response object containing all the conversion rates for all of the currently available symbols/currencies, labeled by their international-standard 3-letter ISO currency codes. The latest rates will always be the most up -to-date data available on your plan.

This is a read-only table function. The Open Exchange Rates API may not support changing the data or the Invantive SQL driver for Open Exchange Rates does not cover it. In the latter case, please use the table `NativePlatformScalarRequests` to upload data to the Open Exchange Rates API.

Select Open Exchange Rates API URL: `latest.json?base={base}&show_alternative={show_alternative}`

Insert Open Exchange Rates API URL: `latest.json?base={base}&show_alternative={show_alternative}`

Update Open Exchange Rates API URL: `latest.json?base={base}&show_alternative={show_alternative}`

Delete Open Exchange Rates API URL: `latest.json?base={base}&show_alternative={show_alternative}`

Field Selection Method: NotRequired

Parameters of Table Function

The following parameters can be used to control the behaviour of the table function LatestRatesByBase. A value must be provided at all times for required parameters, but optional parameters in general do not need to have a value and the execution will default to a pre-defined behaviour. Values can be specified by position and by name. In both cases, all parameters not specified will be treated using their default values.

Value specification by position is done by listing all values from the first to the last needed value. For example with `select * from table(value1, value2, value3)` on a table with four parameters will use the default value for the fourth parameter and the specified values for the first three.

Value specification by name is done by listing all values that require a value. For example with `select * from table(name1 => value1, name3 => value3)` on the same table will use the default values for the second and fourth parameters and the specified values for the first and third.

Name	Data Type	Required	Default Value	Documentation
base	string	☐	USD	Change base currency (3-letter code, default: USD).
show_alternative	boolean	☐	True	Extend returned values with alternative, black market and digital currency rates.

Table Function Columns

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The columns of the table function `LatestRatesByBase` are shown below. Each column has an SQL data type.

Name	Data Type	Label	Required	Documentation
base	string		☐	
name	string		☐	
rate	decimal	Rate	☐	
timestamp_utc	datetime	Timestamp (UTC)	☐	

4.1.5 OpenHighLowClose: Open Exchange Rates Exchange Rates across a Day: Open, High, Low and Close

Catalog: OpenExchangeRates

Schema: OpenExchangeRates

Label: Exchange Rates across a Day: Open, High, Low and Close

Documentation:

Get historical Open, High Low, Close (OHLC) and Average exchange rates for a given time period, ranging from 1 month to 1 minute, where available. Values for 'high', 'low' and 'average' are based on all recorded prices we published (up to every 1 second). OHLC requests are currently available for clients of our VIP Platinum tier.

This is a read-only table function. The Open Exchange Rates API may not support changing the data or the Invantive SQL driver for Open Exchange Rates does not cover it. In the latter case, please use the table `NativePlatformScalarRequests` to upload data to the Open Exchange Rates API.

Select Open Exchange Rates API URL: `ohlc.json?start_time={start_time}&period={period}&base={base}`

Insert Open Exchange Rates API URL: `ohlc.json?start_time={start_time}&period={period}&base={base}`

Update Open Exchange Rates API URL: `ohlc.json?start_time={start_time}&period={period}&base={base}`

Delete Open Exchange Rates API URL: `ohlc.json?start_time={start_time}&period={period}&base={base}`

Field Selection Method: NotRequired

Parameters of Table Function

The following parameters can be used to control the behaviour of the table function OpenHighLowClose. A value must be provided at all times for required parameters, but optional parameters in general do not need to have a value and the execution will default to a pre-defined behaviour. Values can be specified by position and by name. In both cases, all parameters not specified will be treated using their default values.

Value specification by position is done by listing all values from the first to the last needed value. For example with `select * from table(value1, value2, value3)` on a table with four parameters will use the default value for the fourth parameter and the specified values for the first three.

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Value specification by name is done by listing all values that require a value. For example with `select * from table(name1 => value1, name3 => value3)` on the same table will use the default values for the second and fourth parameters and the specified values for the first and third.

Name	Data Type	Required	Default Value	Documentation
base	string	☐	USD	Change base currency (3-letter code, default: USD).
period	string	☑		The requested period (starting on the start_time), e.g. 1m, 30m, 1d.
start_time	datetime	☑		The start time for the requested OHLC period (ISO-8601 format, UTC only).

Table Function Columns

The columns of the table function `OpenHighLowClose` are shown below. Each column has an SQL data type.

Name	Data Type	Label	Required	Documentation
base	string		☐	
end_time	datetime		☐	
EUR_average	decimal		☐	
EUR_close	decimal		☐	
EUR_high	decimal		☐	
EUR_low	decimal		☐	
EUR_open	decimal		☐	
start_time	datetime		☐	

4.1.6 RateTimeSeriesByDateRangeAndBase: Open Exchange Rates Exchange Rate Time Series by Date Range and Base Currency

Catalog: OpenExchangeRates

Schema: OpenExchangeRates

Label: Exchange Rate Time Series by Date Range and Base Currency

Documentation:

Get historical exchange rates for a given time period, where available, using the time series / bulk download API endpoint. Please read all the details before integrating. Time Series requests are currently available for clients on the Enterprise and Unlimited plans.

This is a read-only table function. The Open Exchange Rates API may not support changing the data or the Invantive SQL driver for Open Exchange Rates does not cover it. In the latter case, please use the table `NativePlatformScalarRequests` to upload data to the Open Exchange Rates API.

Select Open Exchange Rates API URL: `time-series.json?start={start}&end={end}&base={base}&show_alternative={show_alternative}`

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Insert Open Exchange Rates API URL: `time-series.json?start={start}&end={end}&base={base}&show_alternative={show_alternative}`

Update Open Exchange Rates API URL: `time-series.json?start={start}&end={end}&base={base}&show_alternative={show_alternative}`

Delete Open Exchange Rates API URL: `time-series.json?start={start}&end={end}&base={base}&show_alternative={show_alternative}`

Field Selection Method: NotRequired

Parameters of Table Function

The following parameters can be used to control the behaviour of the table function RateTimeSeriesByDateRangeAndBase. A value must be provided at all times for required parameters, but optional parameters in general do not need to have a value and the execution will default to a pre-defined behaviour. Values can be specified by position and by name. In both cases, all parameters not specified will be treated using their default values.

Value specification by position is done by listing all values from the first to the last needed value. For example with `select * from table(value1, value2, value3)` on a table with four parameters will use the default value for the fourth parameter and the specified values for the first three.

Value specification by name is done by listing all values that require a value. For example with `select * from table(name1 => value1, name3 => value3)` on the same table will use the default values for the second and fourth parameters and the specified values for the first and third.

Name	Data Type	Required	Default Value	Documentation
base	string	☐	USD	Change base currency (3-letter code, default: USD).
end	datetime	☑		The time series end date without time.
show_alternative	boolean	☐	True	Extend returned values with alternative, black market and digital currency rates.
start	datetime	☑		The time series start date without time.

Table Function Columns

The columns of the table function `RateTimeSeriesByDateRangeAndBase` are shown below. Each column has an SQL data type.

Name	Data Type	Label	Required	Documentation
base	string		☐	
date	string		☐	
end_date	datetime		☐	
rate_AED	decimal		☐	
rate_AFN	decimal		☐	
rate_ALL	decimal		☐	
rate_AMD	decimal		☐	

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Name	Data Type	Label	Required	Documentation
rate_ANG	decimal		☐	
rate_AOA	decimal		☐	
rate_ARS	decimal		☐	
rate_AUD	decimal		☐	
rate_AWG	decimal		☐	
rate_AZN	decimal		☐	
rate_BAM	decimal		☐	
rate_BBD	decimal		☐	
rate_BDT	decimal		☐	
rate_BGN	decimal		☐	
rate_BHD	decimal		☐	
rate_BIF	decimal		☐	
rate_BMD	decimal		☐	
rate_BND	decimal		☐	
rate_BOB	decimal		☐	
rate_BRL	decimal		☐	
rate_BSD	decimal		☐	
rate_BTC	decimal		☐	
rate_BTN	decimal		☐	
rate_BTS	decimal		☐	
rate_BWP	decimal		☐	
rate_BYN	decimal		☐	
rate_BZD	decimal		☐	
rate_CAD	decimal		☐	
rate_CDF	decimal		☐	
rate_CHF	decimal		☐	
rate_CLF	decimal		☐	
rate_CLP	decimal		☐	
rate_CNH	decimal		☐	
rate_CNY	decimal		☐	
rate_COP	decimal		☐	
rate_CRC	decimal		☐	
rate_CUC	decimal		☐	
rate_CUP	decimal		☐	
rate_CVE	decimal		☐	
rate_CZK	decimal		☐	
rate_DASH	decimal		☐	
rate_DJF	decimal		☐	
rate_DKK	decimal		☐	
rate_DOGE	decimal		☐	
rate_DOP	decimal		☐	

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Name	Data Type	Label	Required	Documentation
rate_DZD	decimal		☐	
rate_EAC	decimal		☐	
rate_EGP	decimal		☐	
rate_EMC	decimal		☐	
rate_ERN	decimal		☐	
rate_ETB	decimal		☐	
rate_ETH	decimal		☐	
rate_EUR	decimal		☐	
rate_FCT	decimal		☐	
rate_FJD	decimal		☐	
rate_FKP	decimal		☐	
rate_FTC	decimal		☐	
rate_GBP	decimal		☐	
rate_GEL	decimal		☐	
rate_GGP	decimal		☐	
rate_GHS	decimal		☐	
rate_GIP	decimal		☐	
rate_GMD	decimal		☐	
rate_GNF	decimal		☐	
rate_GTQ	decimal		☐	
rate_GYD	decimal		☐	
rate_HKD	decimal		☐	
rate_HNL	decimal		☐	
rate_HRK	decimal		☐	
rate_HTG	decimal		☐	
rate_HUF	decimal		☐	
rate_IDR	decimal		☐	
rate_ILS	decimal		☐	
rate_IMP	decimal		☐	
rate_INR	decimal		☐	
rate_IQD	decimal		☐	
rate_IRR	decimal		☐	
rate_ISK	decimal		☐	
rate_JEP	decimal		☐	
rate_JMD	decimal		☐	
rate_JOD	decimal		☐	
rate_JPY	decimal		☐	
rate_KES	decimal		☐	
rate_KGS	decimal		☐	
rate_KHR	decimal		☐	
rate_KMF	decimal		☐	

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Name	Data Type	Label	Required	Documentation
rate_KPW	decimal		☐	
rate_KRW	decimal		☐	
rate_KWD	decimal		☐	
rate_KYD	decimal		☐	
rate_KZT	decimal		☐	
rate_LAK	decimal		☐	
rate_LBP	decimal		☐	
rate_LD	decimal		☐	
rate_LKR	decimal		☐	
rate_LRD	decimal		☐	
rate_LSL	decimal		☐	
rate_LTC	decimal		☐	
rate_LYD	decimal		☐	
rate_MAD	decimal		☐	
rate_MDL	decimal		☐	
rate_MGA	decimal		☐	
rate_MKD	decimal		☐	
rate_MMK	decimal		☐	
rate_MNT	decimal		☐	
rate_MOP	decimal		☐	
rate_MRO	decimal		☐	
rate_MRU	decimal		☐	
rate_MUR	decimal		☐	
rate_MVR	decimal		☐	
rate_MWK	decimal		☐	
rate_MXN	decimal		☐	
rate_MYR	decimal		☐	
rate_MZN	decimal		☐	
rate_NAD	decimal		☐	
rate_NGN	decimal		☐	
rate_NIO	decimal		☐	
rate_NMC	decimal		☐	
rate_NOK	decimal		☐	
rate_NPR	decimal		☐	
rate_NVC	decimal		☐	
rate_NXT	decimal		☐	
rate_NZD	decimal		☐	
rate_OMR	decimal		☐	
rate_PAB	decimal		☐	
rate_PEN	decimal		☐	
rate_PGK	decimal		☐	

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Name	Data Type	Label	Required	Documentation
rate_PHP	decimal		☐	
rate_PKR	decimal		☐	
rate_PLN	decimal		☐	
rate_PPC	decimal		☐	
rate_PYG	decimal		☐	
rate_QAR	decimal		☐	
rate_RON	decimal		☐	
rate_RSD	decimal		☐	
rate_RUB	decimal		☐	
rate_RWF	decimal		☐	
rate_SAR	decimal		☐	
rate_SBD	decimal		☐	
rate_SCR	decimal		☐	
rate_SDG	decimal		☐	
rate_SEK	decimal		☐	
rate_SGD	decimal		☐	
rate_SHP	decimal		☐	
rate_SLL	decimal		☐	
rate_SOS	decimal		☐	
rate_SRD	decimal		☐	
rate_SSP	decimal		☐	
rate_STD	decimal		☐	
rate_STN	decimal		☐	
rate_STR	decimal		☐	
rate_SVC	decimal		☐	
rate_SYP	decimal		☐	
rate_SZL	decimal		☐	
rate_THB	decimal		☐	
rate_TJS	decimal		☐	
rate_TMT	decimal		☐	
rate_TND	decimal		☐	
rate_TOP	decimal		☐	
rate_TRY	decimal		☐	
rate_TTD	decimal		☐	
rate_TWD	decimal		☐	
rate_TZS	decimal		☐	
rate_UAH	decimal		☐	
rate_UGX	decimal		☐	
rate_USD	decimal		☐	
rate_UYU	decimal		☐	
rate_UZS	decimal		☐	

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Name	Data Type	Label	Required	Documentation
rate_VEF_BLKMKT	decimal		☐	
rate_VEF_DICOM	decimal		☐	
rate_VEF_DIPRO	decimal		☐	
rate_VEF	decimal		☐	
rate_VES	decimal		☐	
rate_VND	decimal		☐	
rate_VTC	decimal		☐	
rate_VUV	decimal		☐	
rate_WST	decimal		☐	
rate_XAF	decimal		☐	
rate_XAG	decimal		☐	
rate_XAU	decimal		☐	
rate_XCD	decimal		☐	
rate_XDR	decimal		☐	
rate_XMR	decimal		☐	
rate_XOF	decimal		☐	
rate_XPD	decimal		☐	
rate_XPF	decimal		☐	
rate_XPM	decimal		☐	
rate_XPT	decimal		☐	
rate_XRP	decimal		☐	
rate_YER	decimal		☐	
rate_ZAR	decimal		☐	
rate_ZMW	decimal		☐	
rate_ZWL	decimal		☐	
start_date	datetime		☐	

4.1.7 Usage: Open Exchange Rates Usage

Catalog: OpenExchangeRates

Schema: OpenExchangeRates

Label: Usage

Documentation:

Get basic plan information and usage statistics for an Open Exchange Rates App ID.

This is a read-only table. The Open Exchange Rates API may not support changing the data or the Invantive SQL driver for Open Exchange Rates does not cover it. In the latter case, please use the table `NativePlatformScalarRequests` to upload data to the Open Exchange Rates API.

Select Open Exchange Rates API URL: `usage.json`

Insert Open Exchange Rates API URL: `usage.json`

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Update Open Exchange Rates API URL: `usage.json`

Delete Open Exchange Rates API URL: `usage.json`

Field Selection Method: NotRequired

Table Columns

The columns of the table `Usage` are shown below. Each column has an SQL data type.

Name	Data Type	Label	Required	Documentation
app_id	string	App ID	☐	
plan_convert	boolean		☐	
plan_experimental	boolean		☐	
plan_features_base	boolean		☐	
plan_name	string		☐	
plan_quota	string		☐	
plan_symbols	boolean		☐	
plan_time_series	boolean		☐	
plan_update_frequency	string		☐	
status	string		☐	
usage_daily_average	int32		☐	
usage_days_elapsed	int32		☐	
usage_days_remaining	int32		☐	
usage_requests_quota	int32		☐	
usage_requests_remaining	int32		☐	
usage_requests	int32		☐	

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Index

- A -

add-odata-mandatory-filters 2
AED 16
AFN 16
ALL 16
AMD 16
Amount 15
analysis-enforce-row-uniqueness 2
ANG 16
AOA 16
api-url 2
App ID 32
app_id 32
ARS 16
AUD 16
AWG 16
AZN 16

- B -

BAM 16
base 22, 24, 25, 26
BBD 16
BDT 16
BGN 16
BHD 16
BIF 16
BLOB Preferred 14
BLOB_PREFERRED 14
BMD 16
BND 16
BOB 16
BOL_RESPONSE_CACHE_MAX_AGE_SEC 14
BRL 16
BSD 16
BTC 16
BTN 16
BTS 16
bulk-delete-page-size-rows 2
bulk-insert-page-size-bytes 2
bulk-insert-page-size-rows 2
BWP 16
BYN 16
BZD 16

- C -

CAD 16
CDF 16
CHF 16
CLF 16
CLP 16
CNH 16
CNY 16
Content Type 14
CONTENT_TYPE 14
Convert Amount 15
ConvertAmount 15
COP 16
CRC 16
CUC 16
CUP 16
Currencies 16
CVE 16
CZK 16

- D -

DASH 16
date 22, 26
DATE_ENDED 14
DATE_STARTED 14
DJF 16
DKK 16
DOGE 16
DOP 16
download-error-400-bad-request-max-tries 2
download-error-400-bad-request-sleep-initial-ms 2
download-error-400-bad-request-sleep-max-ms 2
download-error-400-bad-request-sleep-multiplicator 2
download-error-408-request-timeout-max-tries 2
download-error-408-request-timeout-sleep-initial-ms 2
download-error-408-request-timeout-sleep-max-ms 2
download-error-408-request-timeout-sleep-multiplicator 2
download-error-422-bad-request-max-tries 2
download-error-422-bad-request-sleep-initial-ms 2
download-error-422-bad-request-sleep-max-ms 2
download-error-422-bad-request-sleep-multiplicator 2
download-error-429-too-many-requests-max-tries 2
download-error-429-too-many-requests-sleep-initial-ms 2

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download-error-429-too-many-requests-sleep-max-ms 2
download-error-429-too-many-requests-sleep-multiplicator 2
download-error-502-server-unavailable-max-tries 2
download-error-502-server-unavailable-sleep-initial-ms 2
download-error-502-server-unavailable-sleep-max-ms 2
download-error-502-server-unavailable-sleep-multiplicator 2
download-error-503-server-unavailable-max-tries 2
download-error-503-server-unavailable-sleep-initial-ms 2
download-error-503-server-unavailable-sleep-max-ms 2
download-error-503-server-unavailable-sleep-multiplicator 2
download-error-504-gateway-timeout-max-tries 2
download-error-504-gateway-timeout-sleep-initial-ms 2
download-error-504-gateway-timeout-sleep-max-ms 2
download-error-504-gateway-timeout-sleep-multiplicator 2
download-error-590-network-connect-timeout-max-tries 2
download-error-590-network-connect-timeout-sleep-initial-ms 2
download-error-590-network-connect-timeout-sleep-max-ms 2
download-error-590-network-connect-timeout-sleep-multiplicator 2
download-error-599-network-connect-timeout-max-tries 2
download-error-599-network-connect-timeout-sleep-initial-ms 2
download-error-599-network-connect-timeout-sleep-max-ms 2
download-error-599-network-connect-timeout-sleep-multiplicator 2
download-error-argument-exception-max-tries 2
download-error-argument-exception-sleep-initial-ms 2
download-error-argument-exception-sleep-max-ms 2
download-error-argument-exception-sleep-multiplicator 2
download-error-internet-down-max-tries 2
download-error-internet-down-sleep-initial-ms 2
download-error-internet-down-sleep-max-ms 2
download-error-internet-down-sleep-multiplicator 2
download-error-io-exception-max-tries 2
download-error-io-exception-sleep-initial-ms 2
download-error-io-exception-sleep-max-ms 2
download-error-io-exception-sleep-multiplicator 2
download-error-json-exception-max-tries 2
download-error-json-exception-sleep-initial-ms 2
download-error-json-exception-sleep-max-ms 2
download-error-json-exception-sleep-multiplicator 2
download-error-other-exception-max-tries 2
download-error-other-exception-sleep-initial-ms 2
download-error-other-exception-sleep-max-ms 2
download-error-other-exception-sleep-multiplicator 2
download-error-socket-exception-max-tries 2
download-error-socket-exception-sleep-initial-ms 2
download-error-socket-exception-sleep-max-ms 2
download-error-socket-exception-sleep-multiplicator 2
download-error-web-exception-max-tries 2
download-error-web-exception-sleep-initial-ms 2
download-error-web-exception-sleep-max-ms 2
download-error-web-exception-sleep-multiplicator 2
download-error-web-not-implemented-max-tries 2
download-error-web-not-implemented-sleep-initial-ms 2
download-error-web-not-implemented-sleep-max-ms 2
download-error-web-not-implemented-sleep-multiplicator 2
download-error-web-timeout-max-tries 2
download-error-web-timeout-sleep-initial-ms 2
download-error-web-timeout-sleep-max-ms 2
download-error-web-timeout-sleep-multiplicator 2
download-error-web-unauthorized-max-tries 2
download-error-web-unauthorized-sleep-initial-ms 2
download-error-web-unauthorized-sleep-max-ms 2
download-error-web-unauthorized-sleep-multiplicator 2
Driver 1
DRY_RUN 14
Duration (ms) 14
DURATION_MS 14
DZD 16

- E -

EAC 16
EGP 16
EMC 16
end 26
End Date 14
end_date 26
end_time 25
ERN 16
Error Message Code 14

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Error Message Text 14
ERROR_MESSAGE_CODE 14
ERROR_MESSAGE_TEXT 14
ETB 16
ETH 16
EUR 16
EUR_average 25
EUR_close 25
EUR_high 25
EUR_low 25
EUR_open 25
Exchange Rate Time Series by Date Range and Base Currency 26
Exchange Rates across a Day: Open, High, Low and Close 25

- F -

Fail on Error 14
FAIL_ON_ERROR 14
FCT 16
FJD 16
FKP 16
force-case-sensitive-identifiers 2
forced-casing-identifiers 2
From 15
FTC 16

- G -

GBP 16
GEL 16
GGP 16
GHS 16
GIP 16
GMD 16
GNF 16
GTQ 16
GYD 16

- H -

HistoricalRatesByDateAndBase 22
HKD 16
HNL 16
HRK 16
HTG 16
HTTP Disk Cache Maximum Age (sec) 14
HTTP Memory Cache Maximum Age (sec) 14
HTTP Method 14
HTTP Status Code 14
HTTP_DISK_CACHE_MAX_AGE_SEC 14
HTTP_DISK_CACHE_SAVE 14
HTTP_DISK_CACHE_USE 14
HTTP_MEMORY_CACHE_MAX_AGE_SEC 14
HTTP_MEMORY_CACHE_SAVE 14
HTTP_MEMORY_CACHE_USE 14
HTTP_METHOD 14
HTTP_STATUS_CODE 14
http-disk-cache-compression-level 2
http-disk-cache-directory 2
http-disk-cache-ignore-write-errors 2
http-disk-cache-max-age-sec 2
http-get-timeout-max-ms 2
http-get-timeout-ms 2
http-memory-cache-compression-level 2
http-memory-cache-max-age-sec 2
http-post-timeout-max-ms 2
http-post-timeout-ms 2
HUF 16

- I -

IDR 16
ignore-http-400-errors 2
ignore-http-401-errors 2
ignore-http-402-errors 2
ignore-http-403-errors 2
ignore-http-404-errors 2
ignore-http-422-errors 2
ignore-http-429-errors 2
ignore-http-500-errors 2
ignore-http-502-errors 2
ignore-http-503-errors 2
ILS 16
IMP 16
INR 16
invalid-json-on-get-max-tries 2
invalid-json-on-get-sleep-initial-ms 2
invalid-json-on-get-sleep-max-ms 2
invalid-json-on-get-sleep-multiplicator 2
invalid-json-on-post-max-tries 2
invalid-json-on-post-sleep-initial-ms 2
invalid-json-on-post-sleep-max-ms 2
invalid-json-on-post-sleep-multiplicator 2
invantive-sql-compress-sparse-arrays 2
invantive-sql-correct-invalid-date 2
invantive-sql-forward-filters-to-data-containers 2
invantive-sql-share-byte-arrays 2
invantive-sql-share-strings 2
invantive-sql-shuffle-fetch-results-data-containers 2

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invantive-use-cache 2
IQD 16
IRR 16
ISK 16

- J -

JEP 16
JMD 16
JOD 16
join-set-points-per-request 2
JPY 16

- K -

KES 16
KGS 16
KHR 16
KMF 16
KPW 16
KRW 16
KWD 16
KYD 16
KZT 16

- L -

LAK 16
LatestRatesByBase 24
LBP 16
LD 16
limit-partition-calls-left 2
LKR 16
log-native-calls-to-disk-max-events 2
log-native-calls-to-disk-max-seconds 2
log-native-calls-to-disk-on-error 2
log-native-calls-to-disk-on-success 2
log-native-calls-to-trace 2
LRD 16
LSL 16
LTC 16
LYD 16

- M -

MAD 16
maximum-length-identifiers 2
max-odata-filters 2
max-url-length-accepted 2
max-url-length-desired 2
MDL 16
metadata-cache-max-age-sec 2
MGA 16
MKD 16
MMK 16
MNT 16
MOP 16
MRO 16
MRU 16
MUR 16
MVR 16
MWK 16
MXN 16
MYR 16
MZN 16

- N -

NAD 16
name 22, 24
Native Platform Scalar Requests 14
NATIVEPLATFORMSCALARREQUESTS 14
NGN 16
NIO 16
NMC 16
NOK 16
NPR 16
npt 14
NVC 16
NXT 16
NZD 16

- O -

oauth-unauthorized-max-tries 2
oauth-unauthorized-sleep-initial-ms 2
oauth-unauthorized-sleep-max-ms 2
oauth-unauthorized-sleep-multiplicator 2
OMR 16
Open Exchange Rates 1, 14, 15, 16, 22, 24, 25, 26, 32
OpenExchangeRates 1
openexra 1
OpenHighLowClose 25
ORIG_SYSTEM_GROUP 14
ORIG_SYSTEM_REFERENCE 14
Original System Group 14
Original System Reference 14

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- P -

PAB 16
partition-slot-based-rate-limit-length-ms 2
partition-slot-based-rate-limit-slots 2
Payload 14
PAYLOAD_TEXT 14
PEN 16
period 25
PGK 16
PHP 16
PKR 16
plan_convert 32
plan_experimental 32
plan_features_base 32
plan_name 32
plan_quota 32
plan_symbols 32
plan_time_series 32
plan_update_frequency 32
PLN 16
PPC 16
pre-request-delay-ms 2
PYG 16

- Q -

QAR 16
Query 15

- R -

Rate 15, 22, 24
rate_AED 26
rate_AFN 26
rate_ALL 26
rate_AMD 26
rate_ANG 26
rate_AOA 26
rate_ARS 26
rate_AUD 26
rate_AWG 26
rate_AZN 26
rate_BAM 26
rate_BBD 26
rate_BDT 26
rate_BGN 26
rate_BHD 26
rate_BIF 26
rate_BMD 26
rate_BND 26
rate_BOB 26
rate_BRL 26
rate_BSD 26
rate_BTC 26
rate_BTN 26
rate_BTS 26
rate_BWP 26
rate_BYN 26
rate_BZD 26
rate_CAD 26
rate_CDF 26
rate_CHF 26
rate_CLF 26
rate_CLP 26
rate_CNH 26
rate_CNY 26
rate_COP 26
rate_CRC 26
rate_CUC 26
rate_CUP 26
rate_CVE 26
rate_CZK 26
rate_DASH 26
rate_DJF 26
rate_DKK 26
rate_DOGE 26
rate_DOP 26
rate_DZD 26
rate_EAC 26
rate_EGP 26
rate_EMC 26
rate_ERN 26
rate_ETB 26
rate_ETH 26
rate_EUR 26
rate_FCT 26
rate_FJD 26
rate_FKP 26
rate_FTC 26
rate_GBP 26
rate_GEL 26
rate_GGP 26
rate_GHS 26
rate_GIP 26
rate_GMD 26
rate_GNF 26
rate_GTQ 26
rate_GYD 26
rate_HKD 26

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rate_HNL 26
rate_HRK 26
rate_HTG 26
rate_HUF 26
rate_IDR 26
rate_ILS 26
rate_IMP 26
rate_INR 26
rate_IQD 26
rate_IRR 26
rate_ISK 26
rate_JEP 26
rate_JMD 26
rate_JOD 26
rate_JPY 26
rate_KES 26
rate_KGS 26
rate_KHR 26
rate_KMF 26
rate_KPW 26
rate_KRW 26
rate_KWD 26
rate_KYD 26
rate_KZT 26
rate_LAK 26
rate_LBP 26
rate_LD 26
rate_LKR 26
rate_LRD 26
rate_LSL 26
rate_LTC 26
rate_LYD 26
rate_MAD 26
rate_MDL 26
rate_MGA 26
rate_MKD 26
rate_MMK 26
rate_MNT 26
rate_MOP 26
rate_MRO 26
rate_MRU 26
rate_MUR 26
rate_MVR 26
rate_MWK 26
rate_MXN 26
rate_MYR 26
rate_MZN 26
rate_NAD 26
rate_NGN 26
rate_NIO 26
rate_NMC 26
rate_NOK 26
rate_NPR 26
rate_NVC 26
rate_NXT 26
rate_NZD 26
rate_OMR 26
rate_PAB 26
rate_PEN 26
rate_PGK 26
rate_PHP 26
rate_PKR 26
rate_PLN 26
rate_PPC 26
rate_PYG 26
rate_QAR 26
rate_RON 26
rate_RSD 26
rate_RUB 26
rate_RWF 26
rate_SAR 26
rate_SBD 26
rate_SCR 26
rate_SDG 26
rate_SEK 26
rate_SGD 26
rate_SHP 26
rate_SLL 26
rate_SOS 26
rate_SRD 26
rate_SSP 26
rate_STD 26
rate_STN 26
rate_STR 26
rate_SVC 26
rate_SYP 26
rate_SZL 26
rate_THB 26
rate_TJS 26
rate_TMT 26
rate_TND 26
rate_TOP 26
rate_TRY 26
rate_TTD 26
rate_TWD 26
rate_TZS 26
rate_UAH 26
rate_UGX 26
rate_USD 26
rate_UYU 26
rate_UZS 26
rate_VEF 26

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rate_VEF_BLKMKT 26
rate_VEF_DICOM 26
rate_VEF_DIPRO 26
rate_VES 26
rate_VND 26
rate_VTC 26
rate_VUV 26
rate_WST 26
rate_XAF 26
rate_XAG 26
rate_XAU 26
rate_XCD 26
rate_XDR 26
rate_XMR 26
rate_XOF 26
rate_XPD 26
rate_XPF 26
rate_XPM 26
rate_XPT 26
rate_XRP 26
rate_YER 26
rate_ZAR 26
rate_ZMW 26
rate_ZWL 26
RateTimeSeriesByDateRangeAndBase 26
requested-page-size 2
requests-parallel-max 2
Response 15
Response Cache Maximum Age (sec) 14
Result BLOB 14
Result Text 14
RESULT_BLOB 14
RESULT_DATE_TIME_UTC 14
RESULT_NUMBER 14
RESULT_TEXT 14
RON 16
RSD 16
RUB 16
Run without Actions 14
RWF 16

- S -

SAR 16
Save HTTP Disk Cache 14
Save HTTP Memory Cache 14
SBD 16
SCR 16
SDG 16
SEK 16
SGD 16
show_alternative 16, 22, 24, 26
SHP 16
simulate-http-400-errors 2
simulate-http-400-errors-percentage 2
simulate-http-401-errors 2
simulate-http-401-errors-percentage 2
simulate-http-403-errors 2
simulate-http-403-errors-percentage 2
simulate-http-408-errors 2
simulate-http-408-errors-percentage 2
simulate-http-429-errors 2
simulate-http-429-errors-percentage 2
simulate-http-500-errors 2
simulate-http-500-errors-percentage 2
simulate-http-502-errors 2
simulate-http-502-errors-percentage 2
simulate-http-503-errors 2
simulate-http-503-errors-percentage 2
simulate-http-protocol-errors 2
simulate-http-protocol-errors-percentage 2
simulate-http-timeout-errors 2
simulate-http-timeout-errors-percentage 2
SLL 16
slot-based-rate-limit-length-ms 2
slot-based-rate-limit-slots 2
SOS 16
SRD 16
SSP 16
standardize-identifiers 2
standardize-identifiers-casing 2
start 26
Start Date 14
start_date 26
start_time 25
status 32
STD 16
STN 16
STR 16
Succesful 14
SUCCESSFUL 14
SVC 16
SYP 16
SZL 16

- T -

THB 16
Timeout (sec) 14
TIMEOUT_SEC 14
timestamp 15
Timestamp (UTC) 22, 24

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timestamp_utc 22, 24
TJS 16
TMT 16
TND 16
To 15
TOP 16
Transaction ID 14
TRANSACTION_ID 14
TRY 16
TTD 16
TWD 16
TZS 16

- U -

UAH 16
UGX 16
URL 14
Usage 32
usage_daily_average 32
usage_days_elapsed 32
usage_days_remaining 32
usage_requests 32
usage_requests_quota 32
usage_requests_remaining 32
USD 16
Use HTTP Disk Cache 14
Use HTTP Memory Cache 14
use-batch-insert 2
use-http-disk-cache-read 2
use-http-disk-cache-write 2
use-http-memory-cache-read 2
use-http-memory-cache-write 2
UYU 16
UZS 16

- V -

value 15
VEF 16
VEF_BLKMKT 16
VEF_DICOM 16
VEF_DIPRO 16
VES 16
VND 16
VTC 16
VUV 16

- W -

WST 16

- X -

XAF 16
XAG 16
XAU 16
XCD 16
XDR 16
XMR 16
XOF 16
XPD 16
XPF 16
XPM 16
XPT 16
XRP 16

- Y -

YER 16

- Z -

ZAR 16
ZMW 16
ZWL 16

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