

Mail 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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1 SQL Driver for Mail 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. Invantive Support or other users will try to help you.

Exchange email through SMTP.

The Mail driver covers 1 tables and 41 columns.

Mail API Clients

Invantive UniversalSQL is available on many user interfaces ("clients" in traditional server-client paradigma). All Invantive UniversalSQL 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.

Specifications

The SQL driver for Mail does not support partitioning.

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

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

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 Mail the comparison of two texts is case sensitive by default.

Changes and bug fixes on the Mail SQL driver can be found in the release notes. Get access to the community through the Mail section of the Invantive forums.

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

Alias: `mail`

Recommended alias: `ml`

More technical documentation as provided by the supplier of Mail on the native connection used can be found at https://cloud.invantive.com/product-manuals.

Technical support (URL): https://forums.invantive.com

Function documentation (URL): https://cloud.invantive.com/data-models

Function support (URL): https://forums.invantive.com

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2 SQL Driver Attributes

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

The Mail 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.
- Log on: value to be specified interactively by user during log on in a user interface.

The connection string for Mail can be found in the settings*.xml file used for the database. The reference manuals contain instructions how to relocate the settings*.xml files. Settings*.xml files are typically located in the `%USERPROFILE%\invantive` folder in most deployment scenarios. 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.

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 Mail 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
analysis-enforce-row-uniqueness	Enforce rows to be unique for software analysis. A fingerprint is calculated from the whole row of data when the primary key column is unknown.	Shared	False	✓	✓	✓	
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	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
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 Mixed.	Shared		✓	✓	✓	
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-execution-profile-disk-path	{res:itgen_pae_invantive_sql_execution_profile_disk_path}	SQL Engine V1		✓	✓	✓	
invantive-sql-execution-profile-to-disk	{res:itgen_pae_invantive_sql_execution_profile_to_disk}	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-results-data-containers	Whether to shuffle results fetched from data containers.	SQL Engine V1	False	✓	✓	✓	
invantive-use-cache	Whether to cache the results of a query.	SQL Engine V1	True	✓	✓	✓	
log-native-calls-to-disk-max-events	Maximum number of call events to register from last activation.	Shared		✓	✓	✓	
log-native-calls-to-disk-max-seconds	Maximum number of seconds to register calls from last activation.	Shared		✓	✓	✓	
log-native-calls-to-disk-on-error	Registers native calls to data container backend as disk files when the call raised an error.	Shared	False	✓	✓	✓	
log-native-calls-to-disk-on-success	Registers native calls to data container backend as disk files when the call raised no error.	Shared	False	✓	✓	✓	
log-native-calls-to-trace	Log native calls to data container backend on the trace.	Shared	False	✓	✓	✓	
mail-body-html	Whether the mail body is HTML.	Mail		✓	✓	✓	
mail-from-email	The default FROM email address.	Mail		✓	✓	✓	

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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
mail-from-name	The default FROM name.	Mail		✓	✓	✓	
mail-priority	Priority of the mail; negative is bulk, 0 is neutral, positive is urgent.	Mail		✓	✓	✓	
mail-reply-to-email	The default REPLY TO email address.	Mail		✓	✓	✓	
mail-reply-to-name	The default REPLY TO name.	Mail		✓	✓	✓	
maximum-length-identifiers	Non-default maximum length in characters of identifier names.	Shared		✓	✓	✓	
partition-slot-based-rate-limit-length-ms	Total length in milliseconds 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 rate limit.	Shared		✓		✓	
pre-request-delay-ms	Pre-request delay in milliseconds per request.	Shared	0	✓	✓	✓	
requested-maximum-usable-partitions	Requested Maximum Usable Partitions	Shared		✓	✓	✓	
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	✓	✓	✓	
slot-based-rate-limit-length-ms	Total length in milliseconds 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		✓		✓	
smtp-enable-ssl	Set whether SSL is enabled for SMTP connections.	Mail	False	✓	✓	✓	
smtp-host-address	The default SMTP host address to use.	Mail		✓	✓	✓	
smtp-host-port-number	The default SMTP host post number to use.	Mail		✓	✓	✓	
smtp-max-parallel	Maximum number of concurrent SMTP requests.	Mail	32	✓	✓	✓	
smtp-minimum-deliver-duration-ms	Minimum deliver duration in milliseconds for the SMTP send plus inserted sleep when SMTP send finished earlier than the minimum. The value is applied per parallel thread.	Mail		✓	✓	✓	
smtp-password	The default SMTP password to authenticate with.	Mail		✓	✓	✓	
smtp-send-timeout-ms	Timeout in milliseconds after which the SMTP send times out.	Mail		✓	✓	✓	

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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
smtp-user-name	The default SMTP user name to authenticate with.	Mail		✓	✓	✓	
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	✓	✓	✓	

3 Catalog: Mail

3.1 Schemas

3.1.1 SMTP: Mail Outgoing Mail Message Queue

Catalog: Mail

Primary Keys: id

Label: Outgoing Mail Message Queue

Retrieve: true

Table Columns

The columns of the table SMTP 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
AddressEncoding	varchar2(30)	Address Encoding	☐	Character set for encoding mail addresses.
attachment1Contents	blob	Attachment 1 Contents	☐	Binary contents of the first attachment.
attachment1MimeType	varchar2	Attachment 1 MIME Type	☐	MIME type of the first attachment.
attachment1Name	varchar2	Attachment #1 File Name	☐	File name of the first attachment.
attachment2Contents	blob	Attachment 2 Contents	☐	Binary contents of the second attachment.
attachment2MimeType	varchar2	Attachment 2 MIME Type	☐	MIME type of the second attachment.
attachment2Name	varchar2	Attachment #2 File Name	☐	File name of the second attachment.
attachment3Contents	blob	Attachment 3 Contents	☐	Binary contents of the third attachment.
attachment3MimeType	varchar2	Attachment 3 MIME Type	☐	MIME type of the third attachment.

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Name	Data Type	Label	Required	Documentation
attachment3Name	varchar2	Attachment #3 File Name	☐	File name of the third attachment.
bccEmail	varchar2	Blank Carbon Copy Recipient Email Addresses	☐	List of Blank Carbo Copy recipients, separated by ';'.
body	varchar2	Body Text	☐	Body text of the mail.
bodyEncoding	varchar2(30)	Body Encoding	☐	Character set for encoding mail body.
ccEmail	varchar2	Carbon Copy Recipient Email Addresses	☐	List of email addresses of the recipients of a copy, separated by ';'.
dateEndUtc	datetime	Date End (UTC)	☐	Date end (UTC).
dateStartUtc	datetime	Date Start (UTC)	☐	Date start (UTC).
DispositionNotificationToEmailAddress	varchar2	Disposition Notification to Email Address	☐	Email address in Disposition-Notification-To header.
enableSsl	boolean	SMTP Enable SSL	☐	Whether to use SSL on SMTP transport.
errorMessageCode	varchar2	Error Message Code	☐	Message code of the error.
errorMessageText	varchar2	Error Message Text	☐	Message text of the error.
failOnError	boolean	On Error	☐	Fail on error.
fromEmail	varchar2	From Email Address	☐	FROM email address.
fromName	varchar2	From Name	☐	FROM name.
headers	varchar2	Mail Headers	☐	List of headers, per header separated by ';'. The header name and value are separated by a ':'.
HeadersEncoding	varchar2(30)	Headers Encoding	☐	Character set for encoding headers.
id	number	Mail ID	☑	ID.
isBodyHtml	varchar2	Body is HTML Text	☐	True w hen the contents of the body are formatted as HTML, false w hen formatted as plain text.
minimumDeliveryDurationMsec	int32	Minimum Delivery Duration (ms)	☐	Minimum deliver duration in milliseconds for the SMTP send plus inserted sleep w hen SMTP send finished earlier than the minimum.
origSystemReference	varchar2	Original System Reference	☐	Original system reference.
priority	number	Priority	☐	Priority of the mail; negative is bulk, 0 is neutral, positive is urgent.
replyToEmail	varchar2	Reply to Email Address	☐	REPLY TO email address.
replyToName	varchar2	Reply to Name	☐	REPLY TO name.
ReturnReceiptToEmailAddress	varchar2	Return Receipt To Email Address	☐	Email address in Return-Receipt-To header.
smtpHostAddress	varchar2	SMTP Server Host	☐	Host name or IP-address of the SMTP server to send the mail

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Name	Data Type	Label	Required	Documentation
				through.
smtpHostPortNumber	number	SMTP Server Port	☐	Port number of the SMTP server.
smtpPassw ord	varchar2	SMTP Server Passw ord	☐	Passw ord for authentication of the user on the SMTP server.
smtpUserName	varchar2	SMTP Server Log On Code	☐	User name for authentication on the SMTP server.
subject	varchar2	Subject	☐	Subject of the mail.
subjectEncoding	varchar2(30)	Subject Encoding	☐	Character set for encoding subject.
successful	boolean	Succesful	☐	Result of the sending w as successful.
toEmail	varchar2	Recipient Email Addresses	☑	List of email addresses of the recipients, separated by ';'.

4 Package: dcr_metadata

4.1 Procedures

4.1.1 dcr_metadata.get_partitions: Mail Data container metadata package

Get all partitions.

Documentation:

List all partitions.

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