



Informatica® Dynamic Data Masking  
9.9.1

# Release Guide

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# Preface

The *Informatica Dynamic Data Masking Release Guide* is written for system administrators who are responsible for the configuration of Dynamic Data Masking. This guide assumes that you have knowledge of your operating systems, relational database concepts, and the database engines in your environment. The *Informatica Dynamic Data Masking Release Guide* lists new features and enhancements and behavior changes between versions.

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# Part I: Dynamic Data Masking

## Version 9.9.1



# CHAPTER 1

## New Features and Enhancements (9.9.1)

### New Features and Enhancements for Version 9.9.1

This section describes the new features and enhancements for version 9.9.1.

#### Dynamic Data Masking Server New Features and Enhancements

This section describes the new features and enhancements for the Dynamic Data Masking Server for version 9.9.1.

##### Audit Trail Reports

Effective in version 9.9.1, you can use the detailed audit trail log files as input to the audit command and generate audit trail reports. For more information, see the "Logs" chapter in the *Dynamic Data Masking 9.9.1 Administrator Guide*.

##### Kerberos Encryption for Hive Databases

Effective in version 9.9.1, you can configure Kerberos encryption (`saslQop=auth-conf`) for Hive databases. For more information, see the "Security" chapter in the *Dynamic Data Masking 9.9.1 Administrator Guide*.

##### Lookup into Symbol Action

Effective in version 9.9.1, you can use the Lookup into Symbol action to call a PL/SQL function or Java function that returns a value for a defined symbol name. For more information, see the "Security Rules" chapter in the *Dynamic Data Masking 9.9.1 User Guide*.

##### Send User Activity to Secure@Source

Effective in version 9.9.1, you can create a custom appender to send user activities to Secure@Source. For more information, see the "Logs" chapter in the *Dynamic Data Masking 9.9.1 Administrator Guide*.

## Symbol Matcher

Effective in version 9.9.1, you can use the following global variables for the Symbol matcher. For more information, see the "Security Rules" chapter in the *Dynamic Data Masking 9.9.1 User Guide*.

Global Variable	Description
AUTH_DATABASE_IP	The IP address of the database that the client is connected to.
AUTH_DATABASE_PORT	The database port that the client is connected to.
AUTH_ORIG_STATEMENT	The statement that is sent by the client.
AUTH_STATEMENT_RECEIVED_TIME	Date and time Dynamic Data Masking received a statement.
DDM_VERSION	The version of the Dynamic Data Masking Server.

## ZooKeeper

Effective in version 9.9.1, if the connection to ZooKeeper is lost, the Dynamic Data Masking Server automatically attempts to restore the connection and re-create the ephemeral node in ZooKeeper. For more information, see the "High Availability" chapter in the *Dynamic Data Masking 9.9.1 Administrator Guide*.

## Microsoft Azure

Effective in version 9.9.1, you can deploy Dynamic Data Masking version 9.9.1 on Microsoft Azure to provide complete protection functionality.

## CHAPTER 2

# Updates and Changed Behavior (9.9.1)

## Updates and Changed Behavior for Version 9.9.1

This section describes updates and changed behavior for version 9.9.1.

### Audit Trail

Effective in 9.9.1, Audit Trail can capture all the Dynamic Data Masking configuration changes for auditing purposes. You can use the detailed audit trail log files as input to the audit command and generate standard and compact audit trail reports.

Previously, Audit Trail did not capture all the Dynamic Data Masking configuration changes.

# Part II: Dynamic Data Masking

## Version 9.9

This part contains the following chapters:

- [New Features and Enhancements \(9.9\), 13](#)
- [Updates and Changed Behavior \(9.9\), 15](#)

## CHAPTER 3

# New Features and Enhancements (9.9)

This chapter includes the following topic:

- [New Features and Enhancements for Version 9.9, 13](#)

## New Features and Enhancements for Version 9.9

This section describes the new features and enhancements for version 9.9.

### Dynamic Data Masking New Features and Enhancements

#### Authentication

Dynamic Data Masking supports the following authentication methods for Microsoft Azure SQL databases:

- SQL Server Authentication
- Active Directory - Password

For more information, see the *Dynamic Data Masking Administrator Guide*.

#### Database Support

You can now connect to and mask data in the following databases:

- PostgreSQL
- Microsoft Azure SQL

For more information, see the *Dynamic Data Masking Administrator Guide*.

#### Different Mask Rules for the Same Tables in Schemas

If different schemas have a table and column with the same name, you can apply a unique masking rule at the table or column level in each schema.

For more information, see the *Dynamic Data Masking User Guide*.

#### High Availability with Apache ZooKeeper

To achieve high availability in a distributed environment, configure each Dynamic Data Masking server as a node in the Apache ZooKeeper cluster. When a Dynamic Data Masking server is down, ZooKeeper continues to provide uninterrupted service by switching queries to another Dynamic Data Masking server in the same cluster.

For more information, see the *Dynamic Data Masking Administrator Guide*.

### HTTP Transport Mode for Hive

The DDM for Hive HTTP service listens for and routes database requests for Hive databases using HTTP transport. The service supports SSL and non-SSL modes of communication.

### Installation Options

You can now install Dynamic Data Masking on the following platforms:

- Amazon Web Services
- Microsoft Azure

## CHAPTER 4

# Updates and Changed Behavior (9.9)

This chapter includes the following topic:

- [Updates and Changed Behavior for Version 9.9, 15](#)

## Updates and Changed Behavior for Version 9.9

This section describes the updates and changed behavior for version 9.9.

### Impala Database Type

Effective in version 9.9, when you create a connection to an Impala database, you must select **Impala** for the connection property **Database Type**.

Previously, you had to select **Hive** for **Database Type**.

# Part III: Dynamic Data Masking

## Version 9.8.4

This part contains the following chapters:

- [New Features and Enhancements \(9.8.4\), 17](#)
- [Updates and Changed Behavior \(9.8.4\), 20](#)



## CHAPTER 5

# New Features and Enhancements (9.8.4)

This chapter includes the following topic:

- [New Features and Enhancements for Version 9.8.4, 17](#)

## New Features and Enhancements for Version 9.8.4

This section describes the new features and enhancements for version 9.8.4.

### Dynamic Data Masking Server New Features and Enhancements

This section describes the new features and enhancements for the Dynamic Data Masking Server for version 9.8.4.

#### SSL Communication

SSL communication in Dynamic Data Masking is enhanced to support multiple keystores within the Dynamic Data Masking Server. The Dynamic Data Masking Server can load multiple existing keystores that can contain multiple certificates. Previously, the Dynamic Data Masking Server could load one keystore, the Dynamic Data Masking keystore. The Dynamic Data Masking keystore, previously used for the connection between the database client and the Dynamic Data Masking Server, is no longer required.

The Dynamic Data Masking Server can also load multiple truststores that can contain multiple certificates. Previously, the Dynamic Data Masking Server could load one truststore and you were required to import all public database certificates to the Dynamic Data Masking truststore.

Dynamic Data Masking 9.8.4 now supports SSL communication between the Management Console and Server Control, to the Dynamic Data Masking Server.

You can configure SSL communication in Dynamic Data Masking to use various network protocols and cipher suites available in the Java Virtual Machine that Dynamic Data Masking runs on.

SSL communication in Dynamic Data Masking is available for Oracle, Microsoft SQL Server, and IBM DB2 databases.

For more information, see the *Dynamic Data Masking Administrator Guide*.

## Secure@Source Integration

You can use Dynamic Data Masking to mask columns or block requests to a table that Informatica Secure@Source has identified as sensitive. From Secure@Source, you can export a CSV file that contains information about a particular data store. When you import the CSV file in Dynamic Data Masking, Dynamic Data Masking identifies which columns in the data store tables are protected by a security rule in Dynamic Data Masking. If a column is not protected by any security rule, you can apply a security rule at the column level or block requests to the table at the table level.

For more information, see the *Dynamic Data Masking User Guide*.

## Kerberos Support for Impala and Hive Databases

The Dynamic Data Masking services for Hive and Impala databases support the Kerberos protocol of authentication and encryption. In a Kerberos implementation for Hive or Impala, Dynamic Data Masking gets the client user context and forwards it to the Hive or Impala server. Dynamic Data Masking uses database user context delegation to maintain the client user context on a Hive or Impala database.

Dynamic Data Masking uses the Simple Authentication and Security Layer (SASL) framework for Kerberos context establishment between the database client and the Dynamic Data Masking Server, and the Dynamic Data Masking Server and the Hive or Impala database.

For more information, see the *Dynamic Data Masking Administrator Guide*.

## Teradata COP Support

Dynamic Data Masking supports Teradata COP discovery. Dynamic Data Masking performs COP discovery once for all Teradata databases when the Dynamic Data Masking Server starts. Dynamic Data Masking uses the same naming convention as the Teradata JDBC driver to find COP hosts. COP functionality in Dynamic Data Masking discovers COP host names, not IP addresses as with the Teradata JDBC driver.

For more information, see the *Dynamic Data Masking High Availability Guide*.

## Result Set Masking for Microsoft SQL Server

Dynamic Data Masking can mask a result set returned by a Microsoft SQL Server stored procedure call. The result set masking functionality does not require creation of temporary tables in the database. Result set masking is available for numeric, string, date, and XML data types.

The following new matchers are available for Microsoft SQL Server result set masking:

- Procedure Call matcher
- Metadata matcher

The following new actions are available for Microsoft SQL Server result set masking:

- Process Result action
- Content Masking action
- Masking action
- Custom Transformer action
- Apply Masking action

For more information, see the *Dynamic Data Masking User Guide*.

## Session Changing Commands

You can use session changing commands in Microsoft SQL Server and Sybase target databases. For more information see the *Dynamic Data Masking Administrator Guide*.

## Native Protocol Deployment with Hive and Impala Databases

Dynamic Data Masking supports Hive2 and Impala native protocols. The service DDM for Impala is available for use.

## CHAPTER 6

# Updates and Changed Behavior (9.8.4)

This chapter includes the following topic:

- [Updates and Changed Behavior for Version 9.8.4, 20](#)

## Updates and Changed Behavior for Version 9.8.4

This section describes the updates and changed behavior for version 9.8.4.

### Masking Functionality

By default, version 9.8.4 uses an enhanced masking functionality that might modify certain types of SQL statements differently than previous versions.

If you want to use the previous masking functionality, you can set the property in `jvm.params`.

# Part IV: Dynamic Data Masking

## Version 9.8.3

This part contains the following chapter:

- [New Features and Enhancements \(9.8.3\), 22](#)

## CHAPTER 7

# New Features and Enhancements (9.8.3)

This chapter includes the following topic:

- [New Features and Enhancements for Version 9.8.3, 22](#)

## New Features and Enhancements for Version 9.8.3

This section describes the new features and enhancements for version 9.8.3.

### Dynamic Data Masking Server New Features and Enhancements

This section describes the new features and enhancements for the Dynamic Data Masking Server for version 9.8.3.

#### SSL Communication

You can enable the Dynamic Data Masking Server to operate in SSL mode between a database server and database client. SSL functionality is available for Oracle, Microsoft SQL Server, and Informatica Data Vault 6.4.3 databases.

For more information about SSL communication in Dynamic Data Masking, see the *Dynamic Data Masking 9.8.3 Administrator Guide*.

#### Dynamic Data Masking Service Configuration

When you create or edit a service node for an Oracle database or Informatica Data Vault version 6.4.3, you can configure the "Security" parameter to enable SSL communication.

With the "Address" parameter, you can also provide an IP address for a specific Dynamic Data Masking listener port. The address parameter ensures that the Dynamic Data Masking service listens on the specified port only at the given address. The address parameter is optional and is available for Oracle, Informatica Data Vault, Microsoft SQL Server, IBM DB2, Informix, Teradata, Sybase, and Generic JDBC and ODBC databases.

For more information about Dynamic Data Masking service configuration, see the *Dynamic Data Masking 9.8.3 Administrator Guide*.

## IP Address Binding

You can use the `setAddress` command to enable IP address binding if you want multiple Dynamic Data Masking Servers to run on the same machine and use the same listener port. You can also use the same listener port for multiple Dynamic Data Masking services when the same service is defined on different Dynamic Data Masking Servers.

For more information about IP address binding in Dynamic Data Masking, see the *Dynamic Data Masking 9.8.3 Administrator Guide*.

## Credentials Management

You can use a key store to protect target database credentials and a security provider to access the key store. When you configure a target database connection, choose either the default key store and security provider, or a custom key store and security provider. The default key store and security provider are pre-configured for use with Dynamic Data Masking. You must configure custom key store and security providers for use with Dynamic Data Masking.

For more information about credentials management, see the *Dynamic Data Masking 9.8.3 Administrator Guide*.

## Server Control

You can use the following Server Control commands:

### **server config setKeyStore**

Sets the type of key store, either default or custom, used for a particular target database.

### **server setAddress**

Sets the network address of the Dynamic Data Masking Server to enable IP address binding.

### **server removeAddress**

Removes the Dynamic Data Masking Server network address that you added with the `setAddress` Server Control command.

### **server displayAddress**

Displays the Dynamic Data Masking Server network address that you added with the `setAddress` Server Control command.

For more information about Server Control commands, see the *Dynamic Data Masking 9.8.3 Administrator Guide*.

## Connection Rules

Dynamic Data Masking version 9.8.3 contains the following connection rule matchers:

### **Incoming DDM Listener Address Matcher**

The Incoming DDM Listener Address matcher searches for the Dynamic Data Masking listener address in the incoming connection.

For more information about the connection rule matchers, see the *Dynamic Data Masking 9.8.3 User Guide*.

## Database Parsers

Specific parsers are available for the following databases:

- IBM DB2
- Teradata
- Sybase
- Hive and Impala

- Microsoft SQL Server 2016



# Part V: Dynamic Data Masking

## Verison 9.8.2

This part contains the following chapter:

- [New Features and Enhancements \(9.8.2\), 26](#)

## CHAPTER 8

# New Features and Enhancements (9.8.2)

This chapter includes the following topic:

- [New Features and Enhancements for Version 9.8.2, 26](#)

## New Features and Enhancements for Version 9.8.2

This section describes the new features and enhancements for version 9.8.2.

### Dynamic Data Masking Server New Features and Enhancements

This section describes the new features and enhancements for the Dynamic Data Masking Server for version 9.8.2.

#### SSL Communication

The Dynamic Data Masking Server uses SSL communication. You can enable SSL communication between the Dynamic Data Masking Server and the Data Vault, and between the Dynamic Data Masking Server and the Data Vault client. When you enable SSL communication in the Data Vault, SSL communication is automatically enabled in the Dynamic Data Masking Server.

For more information about SSL communication in Dynamic Data Masking, see the *Dynamic Data Masking 9.8.2 Administrator Guide*.

#### Security Rule Parser Matcher

The Parser matcher identifies requests that Dynamic Data Masking is unable to parse. You can use the Parser matcher with security rule actions to change the request. For example, you can use the Block Statement rule action to block requests that Dynamic Data Masking cannot parse.

For more information about the Parser matcher, see the *Dynamic Data Masking 9.8.2 User Guide*.

# Part VI: Dynamic Data Masking

## Version 9.8.1

This part contains the following chapter:

- [New Features and Enhancements \(9.8.1\), 28](#)

## CHAPTER 9

# New Features and Enhancements (9.8.1)

This chapter includes the following topic:

- [New Features and Enhancements for Version 9.8.1, 28](#)

## New Features and Enhancements for Version 9.8.1

This section describes the new features and enhancements for version 9.8.1.

### Dynamic Data Masking Server New Features and Enhancements

This section describes the new features and enhancements for the Dynamic Data Masking Server for version 9.8.1.

#### Generic Database Node

Dynamic Data Masking impersonates the user context for a generic database node.

You can enter a sanity check script in the Management Console to verify that the connection to the database is valid.

For more information about the generic database node, see the *Dynamic Data Masking 9.8.1 Administrator Guide*.

#### Predefined Security Rule Sets

The Dynamic Data Masking installation contains predefined security rule sets that you can use with a generic database node if you want to run commands that alter the user context. The rule set captures the commands and updates the Dynamic Data Masking symbols for the session.

You can use predefined rule sets for the following databases:

- Greenplum
- MySQL
- Netezza

For more information about the predefined security rule sets, see the *Dynamic Data Masking 9.8.1 Administrator Guide*.

## Server Control

You can use the following Server Control commands:

### **server support**

Creates a .zip archive of Dynamic Data Masking logs. You can send the encrypted log archive to Informatica Global Customer Support to troubleshoot issues with Dynamic Data Masking.

### **server encrypt**

Encrypts a file that contains sensitive information so that you can send the file to Informatica Global Customer Support. Informatica Global Customer Support can decrypt files that you encrypt with the `encrypt` command.

For more information about Server Control commands, see the *Dynamic Data Masking 9.8.1 Administrator Guide*.

## Mask Rule Action

The security rule Mask action contains a **Keep original number of rows** checkbox that you can use to preserve the original number of rows in the masked output when the query contains the DISTINCT operator or a GROUP BY, HAVING, or ORDER BY clause. The default value is unchecked. The unchecked value is backward compatible with previous versions of Dynamic Data Masking.

You can mask SQL batch in Sybase and Microsoft SQL Server databases.

For more information about the Mask action, see the *Dynamic Data Masking 9.8.1 User Guide*.

## Troubleshooting

You can create an encrypted log archive .zip file that you can send to Informatica Global Customer Support to troubleshoot issues with Dynamic Data Masking. You can create the file in the Management Console or with the Server Control `server support` command.

For information about how to create the file, see the *Dynamic Data Masking 9.8.1 Administrator Guide*.

# Generic JDBC and ODBC Wrapper New Features and Enhancements

This section describes the new features and enhancements for the Dynamic Data Masking generic JDBC and ODBC wrappers for version 9.8.1.

## JDBC Wrapper Logging

The Dynamic Data Masking installation contains a template configuration file for JDBC logging. If you use the DDM for JDBC service, you can configure logging on the client machine to debug the JDBC wrapper.

For information about configuring JDBC logging, see the *Dynamic Data Masking 9.8.1 Administrator Guide*.

## ODBC Wrapper Logging

The Dynamic Data Masking installation contains a template configuration file for ODBC logging. If you use the DDM for ODBC service, you can configure logging on the client machine to debug the Driver Manager proxy.

For information about configuring ODBC logging, see the *Dynamic Data Masking 9.8.1 Administrator Guide*.

## Management Console New Features and Enhancements

This section describes the new features and enhancements for the Management Console for version 9.8.1.

### Menu

The Tree menu contains a **Support** option that you can use to create an encrypted .zip archive of Dynamic Data Masking logs. You can send the log archive to Informatica Global Customer Support to troubleshoot issues with Dynamic Data Masking.

For more information about the Management Console, see the *Dynamic Data Masking 9.8.1 User Guide*.

## Accelerator New Features and Enhancements

This section describes the new features and enhancements for the accelerators for version 9.8.1.

### Stored Procedure Accelerator for DB2

When you set up the stored procedure accelerator for DB2, you can create the CLEANUP\_TEMP\_OBJECTS procedure and schedule the procedure job to drop the temporary tables and stored procedures that the accelerator creates in the DB2 TempDB schema as part of the masking process.

For more information about the stored procedure accelerator for DB2, see the *Dynamic Data Masking 9.8.1 Stored Procedure Accelerator Guide for DB2*.

### Stored Procedure Accelerator for Microsoft SQL Server

When you set up the stored procedure for Microsoft SQL Server, you can create the CLEANUP\_TEMP\_OBJECTS procedure and schedule the procedure job to drop the temporary tables that the accelerator creates in the TempDB database as part of the masking process.

For more information about the stored procedure accelerator for Microsoft SQL Server, see the *Dynamic Data Masking 9.8.1 Stored Procedure Accelerator Guide for Microsoft SQL Server*.

### Stored Procedure Accelerator for Sybase

When you set up the stored procedure accelerator for Sybase, you can create a cleanup task on Windows or a cleanup job on Linux to drop the temporary tables and stored procedures that the accelerator creates in the temporary database as part of the masking process.

For more information about the stored procedure accelerator for Sybase, see the *Dynamic Data Masking 9.8.1 Stored Procedure Accelerator Guide for Sybase*.

# Part VII: Dynamic Data Masking

## Version 9.8.0

This part contains the following chapters:

- [New Features and Enhancements \(9.8.0\), 32](#)
- [Updates and Changed Behavior \(9.8.0\), 34](#)

## CHAPTER 10

# New Features and Enhancements (9.8.0)

This chapter includes the following topic:

- [New Features and Enhancements for Version 9.8.0, 32](#)

## New Features and Enhancements for Version 9.8.0

This section describes the new features and enhancements for version 9.8.0.

### Accelerator New Features and Enhancements

This section describes the new features and enhancements for the accelerators for version 9.8.0.

#### Stored Procedure Accelerator for Oracle

The Stored Procedure Accelerator for Oracle supports prepared statement caching.

Optionally, you can use the `MATCH_FUNCTION` and `MATCH_FUNCTION_PARAMS` symbols and a user-defined function to determine whether to mask a stored procedure. You define the symbols in the `DefMaskRSSym` rule and specify the number of arguments that you want to pass to the function.

For more information, see the *Dynamic Data Masking 9.8.0 Stored Procedure Accelerator Guide for Oracle*.

### Dynamic Data Masking Server New Features and Enhancements

This section describes the new features and enhancements for the Dynamic Data Masking Server for version 9.8.0.

#### Connection Rules

Dynamic Data Masking version 9.8.0 contains the following connection rule matchers:

##### **Check Database DSN Matcher**

The Check Database DSN matcher identifies a request based on the data source name of the database. The Check Database DSN matcher is available for the DDM for ODBC service.



### **Check Database URL Matcher**

The Check Database URL matcher identifies a request based on the URL that the client application gives for the driver. The Check Database URL matcher is available for the DDM for JDBC service.

### **Check Property Matcher**

The Check Property Matcher identifies a request based on a property provided by the ODBC or JDBC driver. The Check Property matcher is available for the DDM for ODBC and DDM for JDBC services.

For more information about the connection rule matchers, see the *Dynamic Data Masking 9.8.0 User Guide*.

### **Generic Database Node**

Create a Generic Database connection node to mask data for a database that uses JDBC or ODBC connectivity. Dynamic Data Masking retrieves metadata from the database to mask the SQL request and sends the altered request back to the client. The client then sends the masked request to the database and the database returns masked data.

For more information about the Generic Database node, see the *Dynamic Data Masking 9.8.0 Administrator Guide*.

### **Services**

The Dynamic Data Masking Server contains services for JDBC and ODBC connectivity. Use the DDM for JDBC service to mask data for a database that uses JDBC connectivity. Use the DDM for ODBC service to mask data for a database that uses ODBC connectivity.

For more information about the DDM for JDBC and DDM for ODBC services, see the *Dynamic Data Masking 9.8.0 Administrator Guide*.

## CHAPTER 11

# Updates and Changed Behavior (9.8.0)

This chapter includes the following topic:

- [Updates and Changed Behavior for Version 9.8.0, 34](#)

## Updates and Changed Behavior for Version 9.8.0

This section describes the updates and changed behavior for version 9.8.0.

### Installation Updates and Changed Behavior

This section describes the updates and changed behavior for installation for version 9.8.0.

#### Dynamic Data Masking Server

On Windows, the Dynamic Data Masking Server installation updates the system path to include the Dynamic Data Masking installation `jre\bin` directory.

Previously, the Dynamic Data Masking Server installation required the Java DLL files to be in the Windows system directory.

For more information, see the *Dynamic Data Masking 9.8.0 Installation and Upgrade Guide*.

#### Java Version

On Windows and Linux, Java SE 7 is installed with the Dynamic Data Masking Server. On UNIX, the machine where you install the Dynamic Data Masking Server must have Java SE 7 installed.

Previously, the installer installed Java SE 6 on Windows and Linux, and the UNIX machine had to have Java SE 6 installed.

For more information, see the *Dynamic Data Masking 9.8.0 Installation and Upgrade Guide*.

## Accelerator Updates and Changed Behavior

This section describes the updates and changed behavior for Dynamic Data Masking accelerators for version 9.8.0.

### Stored Procedure Accelerator for Oracle

Effective version 9.8.0, you must compile the DDM\_SP\_MASKING PL/SQL package before you set up the accelerator. Previously, you did not have to compile a package.

For more information, see the *Dynamic Data Masking 9.8.0 Stored Procedure Accelerator Guide for Oracle*.