Database Toolbox™
Release Notes

Contents

Summary by Version

This table provides quick access to what's new in each version. For clarification, see "Using Release Notes" on page 2.

Version (Release)	New Features and Changes	Version Compatibility Considerations	Fixed Bugs and Known Problems	Related Documentation at Web Site
Latest Version V3.4.1 (R2008a)	No	No	Bug Reports Includes fixes	Printable Release Notes: PDF Current product documentation
V3.4 (R2007b)	No	No	Bug Reports Includes fixes	No
V3.3 (R2007a)	Yes Details	No	Bug Reports Includes fixes	No
V3.2 (R2006b)	Yes Details	Yes Summary	Bug Reports Includes fixes	No
V3.1.1 (R2006a)	No	No	Bug Reports Includes fixes	No
V3.1 (R14SP3)	Yes Details	No	Bug Reports Includes fixes	No
V3.0.2 (R14SP2)	No	No	Bug Reports Includes fixes	No

Version (Release)	New Features and Changes	Version Compatibility Considerations	Fixed Bugs and Known Problems	Related Documentation at Web Site
V3.0.1 (R14SP1)	No	No	Fixed bugs	No
V3.0 (R14)	Yes Details	Yes Summary	Fixed bugs	No

Using Release Notes

Use release notes when upgrading to a newer version to learn about:

- New features

- Changes

- Potential impact on your existing files and practices

Review the release notes for other MathWorks™ products required for this product (for example, MATLAB® or Simulink®) for enhancements, bugs, and compatibility considerations that also might impact you.

If you are upgrading from a software version other than the most recent one, review the release notes for all interim versions, not just for the version you are installing. For example, when upgrading from V1.0 to V1.2, review the release notes for V1.1 and V1.2.

What's in the Release Notes

New Features and Changes

- New functionality

- Changes to existing functionality

Version Compatibility Considerations

When a new feature or change introduces a reported incompatibility between versions, the **Compatibility Considerations** subsection explains the impact.

Compatibility issues reported after the product is released appear under Bug Reports at the MathWorks Web site. Bug fixes can sometimes result in incompatibilities, so you should also review the fixed bugs in Bug Reports for any compatibility impact.

Fixed Bugs and Known Problems

The MathWorks offers a user-searchable Bug Reports database so you can view Bug Reports. The development team updates this database at release time and as more information becomes available. This includes provisions for any known workarounds or file replacements. Information is available for bugs existing in or fixed in Release 14SP2 or later. Information is not available for all bugs in earlier releases.

Access Bug Reports using your MathWorks Account.

Version 3.4.1 (R2008a) Database Toolbox™ Software

This table summarizes what's new in Version 3.4.1 (R2008a):

New Features and Changes	Version Compatibility Considerations	Fixed Bugs and Known Problems	Related Documentation at Web Site
No	No	Bug Reports Includes fixes	Printable Release Notes: PDF Current product documentation

There are no new features or changes in this version.

Version 3.4 (R2007b) Database Toolbox™ Software

This table summarizes what's new in Version 3.4 (R2007b):

New Features and Changes	Version Compatibility Considerations	Fixed Bugs and Known Problems	Related Documentation at Web Site
No	No	Bug Reports Includes fixes	Printable Release Notes: PDF Current product documentation

There are no new features or changes in this version.

Version 3.3 (R2007a) Database Toolbox™ Software

This table summarizes what's new in Version 3.3 (R2007a):

New Features and Changes	Version Compatibility Considerations	Fixed Bugs and Known Problems	Related Documentation at Web Site
Yes Details below	No	Bug Reports Includes fixes	Printable Release Notes: PDF Current product documentation

New features and changes follow.

- "setdbprefs Accepts Structure Input" on page 6

- "Visual Query Builder Generated M-File Includes Placeholder for Password and Assigns Preferences to Structure" on page 7

- "Preference Added for Temporary Registry Output; Ensures Full Output for getdatasources" on page 7

setdbprefs Accepts Structure Input

The setdbprefs function now accepts a structure as input. For example, you can run the following commands to assign values to s:

```
s.DataReturnFormat = 'numeric';
s.ErrorHandling = 'report';
```

You can also do this for other setdbprefs properties whose values you want to change. Then set the preferences using the values in s by running the command:

```
setdbprefs(s)
```

For more information, see the setdbprefs reference page.

Visual Query Builder Generated M-File Includes Placeholder for Password and Assigns Preferences to Structure

When you run a query in the Visual Query Builder and select **File > Generate M-File**, the resulting M-file now includes a placeholder string password in the database statement. If a password is required for the connection, such as for connections established via JDBC drivers, substitute the password for the password string. If no password is required, the M-file will run as is. For more information, see "About Generated M-Files".

The generated M-file assigns values for the preferences to the structure s. For more information, see the setdbprefs reference page.

Preference Added for Temporary Registry Output; Ensures Full Output for getdatasources

When you use getdatasources to view the data sources for your system, ensure that you view all data sources by specifying a temporary, writable, output directory using the new preference, TempDirForRegistryOutput. This is useful when you add data sources and do not have write access for the MATLAB® current directory, where the toolbox temporarily writes ODBC registry settings. Without write access, getdatasources does not always return data sources you added. In that event, run setdbprefs to specify a value for the TempDirForRegistryOutput preference, where the value is the full pathname to a directory for which you have write access.

Version 3.2 (R2006b) Database Toolbox™ Software

This table summarizes what's new in Version 3.2 (R2006b):

New Features and Changes	Version Compatibility Considerations	Fixed Bugs and Known Problems	Related Documentation at Web Site
Yes Details below	Yes — Details labeled as **Compatibility Considerations** in descriptions of new features and changes. See also Summary.	Bug Reports Includes fixes	No

New features and changes follow.

- "Enhanced fetch Combines exec with existing fetch" on page 8
- "Import Data from Multiple Resultsets" on page 9
- "Run Stored Procedures to Return Output Parameters" on page 9
- "Specify Catalog and Schema Using Visual Query Builder" on page 9
- "Preferences Option to Find Additional Data Sources" on page 9
- "MATLAB® Change to Assignment of Nonscalar Structure Array Fields Might Impact Database Toolbox™ Software Users" on page 9

Enhanced fetch Combines exec with existing fetch

The new function, `database.fetch`, executes the specified SQL query and imports results into the MATLAB® workspace, given the connection handle `conn`. It is provided for convenience, to combine capabilities of the existing `exec` and `cursor.fetch` functions. In statements and code, do not specify `database.fetch` or `cursor.fetch` but rather, just specify `fetch` with the appropriate objects provided as arguments; the toolbox runs `database.fetch` or `cursor.fetch` as appropriate based on the arguments.

Unlike `cursor.fetch`, `database.fetch` does not return a cursor object on which you can run subsequent Database Toolbox™ functions, but rather returns all data to a MATLAB variable. For more information about

database.fetch and how it differs from cursor.fetch, see the fetch reference page, as well as the database.fetch and cursor.fetch reference pages.

Import Data from Multiple Resultsets

The new function, fetchmulti, imports data into the MATLAB workspace from multiple resultsets, which you retrieve via an exec call to a stored procedure that contains two or more select statements.

Run Stored Procedures to Return Output Parameters

The new function, runstoredprocedure, executes a stored procedure using input parameters specified in a cell array to return output parameters. This allows you to retrieve the value of a variable into a MATLAB variable. runstoredprocedure overcomes a limitation of exec; when you run a stored procedures via exec, you can only retrieve resultsets.

Specify Catalog and Schema Using Visual Query Builder

You can now specify the catalog and schema for a data source using the Visual Query Builder. The default is none, meaning you do not need to select values for them.

Preferences Option to Find Additional Data Sources

The new setdbrprefs option, UseRegistryForSources, instructs the Visual Query Builder to search theMicrosoft® Windows® registry to find any ODBC data sources not uncovered using the system ODBC.INI.

MATLAB® Change to Assignment of Nonscalar Structure Array Fields Might Impact Database Toolbox™ Software Users

In Version 7.3 (R2006b) of the MATLAB software, a change was made to how a nonscalar structure array field is assigned to a single MATLAB variable. For more information, see "Assigning Nonscalar Structure Array Fields to a Single Variable" in the MATLAB Release Notes.

Compatibility Considerations

As a result of this change in the MATLAB software, you may need to modify your Database Toolbox M-files.

Version 3.1.1 (R2006a) Database Toolbox™ Software

This table summarizes what's new in Version 3.1.1 (R2006a):

New Features and Changes	Version Compatibility Considerations	Fixed Bugs and Known Problems	Related Documentation at Web Site
No	No	Bug Reports Includes fixes	No

Version 3.1 (R14SP3) Database Toolbox™ Software

This table summarizes what's new in Version 3.1 (R14SP3):

New Features and Changes	Version Compatibility Considerations	Fixed Bugs and Known Problems	Related Documentation at Web Site
Yes Details below	No	Bug Reports Includes fixes	No

New features and changes follow.

- "fastinsert Function Added" on page 12

- "JDBC Drivers Now Supported for Visual Query Builder on Microsoft® Windows® Systems" on page 13

- "Define Data Sources from Within the Visual Query Builder" on page 13

- "setdbprefs Function Enhanced" on page 13

- "Dynamically Add JDBC Drivers File" on page 14

- "64-Bit FLOAT for Microsoft® SQL Server™ Software Is Fully Supported" on page 14

- "Generate M-File from VQB" on page 14

- "update Function Enhanced to Export Multiple Records" on page 14

- "logintimeout Function Now Supported on Linux® Platforms" on page 14

fastinsert Function Added

There is a new function, fastinsert, that you can use instead of the insert function to export data about three times more quickly than insert. It also allows exporting for all object types, so that any data you can retrieve from a database you now can export to the database, including binary objects.

While there are no known problems with fastinsert, if you receive unexpected results, return to using insert and report the problem with fastinsert via Technical Support.

Note that the Visual Query Builder insert feature uses the `insert` function instead of `fastinsert`.

JDBC Drivers Now Supported for Visual Query Builder on Microsoft® Windows® Systems

You now can use the Visual Query Builder (VQB) with JDBC drivers on Windows® platforms. Previously, only ODBC drivers were supported.

The `confds` function now displays an enhanced dialog box you use to define JDBC data sources. With it, you save and load data source information via MATLAB® MAT-files.

For details, see "Setting Up Data Sources for Use with JDBC Drivers" in the Database Toolbox™ documentation.

Define Data Sources from Within the Visual Query Builder

The Visual Query Builder now includes two new items under the **Query** menu:

- **Define ODBC Data Source**—Directly access your Windows ODBC Data Source Administrator dialog box where you define ODBC data sources.

- **Define JDBC Data Source**—Access the Define JDBC Data Source dialog box for defining JDBC data sources to use with the VQB. The function equivalent is `confds`. When you define a JDBC data source, the information is saved in a MAT-file so you can use it again in a later session. Later, open the MAT-file using the Define JDBC Data Source dialog box, or using `setdbprefs('JDBCDataSourceFile','fullpathtomatfile')`.

For details, see "Configuring Your Environment" in the Database Toolbox documentation.

setdbprefs Function Enhanced

New arguments are supported for defining the JDBC data source MAT-file. For details, see the `setdbprefs` reference page.

Dynamically Add JDBC Drivers File

You can dynamically add a JDBC drivers file to the MATLAB Java™ classpath using the MATLAB javaaddpath function. You can use this method instead of adding a pointer to the JDBC drivers file in your classpath.txt file. The advantage of using javaaddpath is that you do not have to restart the MATLAB software session after running the javaaddpath statement. The disadvantage is that this only applies to the current session and so you need to run the javaaddpath statement in each new session. For details, see "Setting Up Data Sources for Use with JDBC Drivers" in the Database Toolbox documentation.

64-Bit FLOAT for Microsoft® SQL Server™ Software Is Fully Supported

You now can retrieve 64-bit FLOAT data using Microsoft® SQL Server™ software.

Generate M-File from VQB

After running a query using the Visual Query Builder, you can generate an M-file consisting of Database Toolbox functions that perform the query. This is useful if you know how to run queries with the VQB and want to determine the equivalent functions, particularly the SQL statements in exec and insert.

update Function Enhanced to Export Multiple Records

The update function has been enhanced so that you can export multiple records based on different where clauses. The number of where clauses must equal the number of records in the array of data you are exporting. For details, see the reference page for update.

logintimeout Function Now Supported on Linux® Platforms

The logintimeout function is now supported on Linux® platforms.

Version 3.0.2 (R14SP2) Database Toolbox™ Software

This table summarizes what's new in Version 3.0.2 (R14SP2):

New Features and Changes	Version Compatibility Considerations	Fixed Bugs and Known Problems	Related Documentation at Web Site
No	No	Bug Reports Includes fixes	No

Version 3.0.1 (R14SP1) Database Toolbox™ Software

This table summarizes what's new in Version 3.0.1 (R14SP1):

New Features and Changes	Version Compatibility Considerations	Fixed Bugs and Known Problems	Related Documentation at Web Site
No	No	Fixed bugs	No

Version 3.0 (R14) Database Toolbox™ Software

This table summarizes what's new in Version 3.0 (R14):

New Features and Changes	Version Compatibility Considerations	Fixed Bugs and Known Problems	Related Documentation at Web Site
Yes Details below	Yes–Details labeled as **Compatibility Considerations**, below. See also Summary.	Fixed bugs	No

New features and changes follow.

- "New Data Types Supported" on page 17

- "Export Using Visual Query Builder (VQB)" on page 18

- "Display Menu in VQB Now Works for Structure and Numeric Formats" on page 18

- "Spaces in VQB Tables and Fields Now Allowed" on page 18

- "Open Data from VQB into Array Editor" on page 18

- "VQB Query Execute Updates Statement" on page 18

- "Database Toolbox™ Functions Compilable" on page 19

- "logintimeout not Supported on Linux® Platforms" on page 19

- "BOOLEAN Data Types Now Represented as 1's and 0's" on page 19

New Data Types Supported

This toolbox software now supports Sun™ Java™ BINARY (BLOB or Binary Large Objects) and OTHER data types, such as bitmap images and MAT-files. For more information about using these data types in the Visual Query Builder or with functions, see "Retrieving BINARY or OTHER Sun Java SQL Data Types" in the Database Toolbox™ documentation.

Export Using Visual Query Builder (VQB)

You now can use the VQB to export data from the MATLAB® workspace, and insert it into new rows in a database. For more information, see "Exporting Data from the MATLAB Workspace to a New Record in a Database" in the Database Toolbox documentation.

Display Menu in VQB Now Works for Structure and Numeric Formats

You now can use **Display** menu items in the VQB with structure and numeric formats for retrieved data as specified in **Preferences** or with `setdbprefs`. In previous releases, you could use **Display** menu items only for the cell array format.

Spaces in VQB Tables and Fields Now Allowed

You now can use the VQB for tables and fields that contain spaces in their names. They appear inside quotation marks in the VQB lists.

Open Data from VQB into Array Editor

When you double-click a variable in the **Data** field of the VQB, it now opens in the Array Editor. In previous versions, the contents displayed in the Command Window. You still can display the contents in the Command Window by typing the variable name in the Command Window.

VQB Query Execute Updates Statement

In the VQB, when you edit the **SQL statement** field, the query represented by the other fields does not match what is in the **SQL statement** field. When you then select **Query > Save**, it saves exactly that mismatch. When you then load that saved query, you again see the mismatch. When you execute it, it updates, the**SQL statement** field to match the values in the other fields for that query.

Compatibility Considerations

This represents a change from previous versions in which the **SQL statement** field updated to reflect the values in the other fields when you loaded the query, rather than when you executed it.

Database Toolbox™ Functions Compilable

Because of changes made to the MATLAB Compiler, you can compile Database Toolbox functions to create stand-alone applications that do not require the MATLAB software.

logintimeout not Supported on Linux® Platforms

On Linux® platforms, `logintimeout` is not supported.

BOOLEAN Data Types Now Represented as 1's and 0's

Previously, if you retrieved a `BOOLEAN` field from a database using `fetch`, the values were returned as `true` or `false` strings. Now they are returned as 1's and 0's, and are of the MATLAB `logical` data type. For more information, see "Importing BOOLEAN Data from Databases to the MATLAB Workspace" in the Database Toolbox documentation, and the `fetch` and `insert` function reference pages.

Compatibility Considerations

If you have M-files that rely upon the string values for data being `true` or `false`, you need to modify your code to use 1 and 0 instead.

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Compatibility Summary for Database Toolbox™ Software

This table summarizes new features and changes that might cause incompatibilities when you upgrade from an earlier version, or when you use files on multiple versions. Details are provided in the description of the new feature or change.

Version (Release)	New Features and Changes with Version Compatibility Impact
Latest Version V3.4.1 (R2008a)	None
V3.4 (R2007b)	None
V3.3 (R2007a)	None
V3.2 (R2006b)	See the **Compatibility Considerations** subheading for this change: • "MATLAB® Change to Assignment of Nonscalar Structure Array Fields Might Impact Database Toolbox™ Software Users" on page 9
V3.1.1 (R2006a)	None
V3.1 (R14SP3)	None
V3.0.2 (R14SP2)	None

Version (Release)	New Features and Changes with Version Compatibility Impact
V3.0.1 (R14SP1)	None
V3.0 (R14)	See the **Compatibility Considerations** subheading for each of these new features and changes: • "VQB Query Execute Updates Statement" on page 18 • "BOOLEAN Data Types Now Represented as 1's and 0's" on page 19