Quest

Toad® Data Studio 2025 R2

Installation Guide

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Installation Guide
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Installation

System Requirements

Review the following client and database server requirements for Toad® Data Studio.

Client Requirements

Before installing Toad, ensure that your client system meets the following minimum hardware and software requirements:

Requirement	Details
Platform	2 GHz processor (recommended minimum)
Memory	8 GB of RAM minimum, 16 GB recommended Additional RAM Requirements: Using Local Storage, Cross-Connection Query, Business Intelligence connections, or NoSQL connections can require an additional 500 MB of RAM. These features start processes (mysqld.exe, hubproxy.exe) which persist for the Toad session. **Note:** The memory required may vary based on the following: • Applications that are running on your system when using Toad • Size and complexity of the database • Amount of database activity • Number of concurrent users accessing the database
Hard Disk Space	2 GB to install Toad 510 MB to run Toad Additional Recommendations: For retrieving large queries, allow 10 GB free disk space (or more, depending on the size of the data being retrieved). After retrieving 2500 rows, Toad saves data in a TMP (.tmp) file in the user's Temp directory. These TMP files are deleted when Toad closes.
Operating System	Windows Server® 2016 Windows Server® 2019 Windows Server® 2022 Windows® 8.1 Windows® 10 Windows® 11

Requirement	Details
.NET Framework	Microsoft® .NET Framework 4.7.2 **Teradata® .NET Data Provider** You must install the Teradata .NET Data Provider (13.10 or later) to use a Teradata native connection in Toad. **Note:** To use a Teradata connection in a cross-connection query, you must also install a Teradata (13.10 or later) ODBC driver.
Additional Software	**Visual C++ Redistributable for Visual Studio 2019.** This software is required. It is included in installation using the .exe installer. If using the .msi installer, ensure that this software is installed prior to installation. See Visual C++ Redistributable for VS 2019. For 64-bit Toad Data Studio, both 32-bit and 64-bit Visual C++ packages are required.
Database Client	**DB2® Client** Toad no longer installs a DB2 Client along with the Toad application. When connecting to a DB2 database, ensure that you have a DB2 Client or IBM Data Server Driver installed. Toad supports DB2 Client versions 9.7.6 through 11.1. **Oracle® Client** Toad can connect to Oracle using Direct Connect (no Oracle Client required) or using an Oracle Client or Oracle Instant Client. However, if you want to use LDAP, you must install an Oracle Client. Toad supports 9i or later Oracle Clients and Oracle Instant Clients. **Notes:** • You cannot use Oracle Direct Connection in a cross-connection query. • To use an Oracle connection in a cross-connection query, you must install an Oracle Client (full install) or you must install the Oracle Instant Client plus the Oracle ODBC driver.
ODBC Driver	In order to create a native Snowflake connection, you must install the ODBC Driver 2.24.2 (or later) provided by Snowflake. Upon installing and configuring the driver, Toad Data Studio will be set for this type of connection. **Note:** New versions of the Snowflake ODBC Driver are backward-compatible, but there is no guarantee that earlier versions are forward-compatible. Active monitoring and maintaining of installed versions is advised. For more information regarding the process of creating Snowflake connections, please refer to the Installation Guide and User Guide. To create a connection to an Amazon Redshift database you must install the Amazon Redshift ODBC driver 1.3.1.1000 (or later version) on client computers accessing an Amazon Redshift data warehouse. For each computer where you install the driver, there are the following minimum requirements that you can find on the Amazon Redshift Web site. For more information regarding the process of creating Amazon Redshift connections, please refer to the Installation Guide and User Guide. To create a native Databricks connection, you need to install Simba Apache Spark ODBC Connector version 2.8.2 or newer.
Additional Requirements	**Web Browser** Microsoft® Internet Explorer® 11 or later **Screen** Recommended maximum DPI settings for Toad are 125%. It is possible to use Toad up to 200% but some dialog windows will not be completely usable anymore. Maximum tested resolution for Toad is 3800 x 2160 px.

Server Requirements

Before installing Toad, ensure that your server meets the following minimum hardware and software requirements:

Requirement	Details
Native Database Server	Toad supports the following databases: Oracle 10g R2, 11g, 11g R2, 12c, 12c R2, 18c,19c, 21c Toad has been tested on Oracle Exadata 2.0 running Oracle database 11g R2. SQL Server 2012 and SQL Server 2012 Express SQL Server 2014 Enterprise and SQL Server 2014 Express SQL Server 2016 SQL Server 2017 SQL Server 2019 **Notes:** • SQL Server Compact Edition is not supported. • Storage Management is not available on SQL Server Express. IBM DB2 for LUW 9.7, 10.1, 10.5, 10.5.0.5, 11.1, 11.5 IBM DB2 for z/OS 11, 12 **Note:** Toad may support IBM DB2 Express and SWE in addition to listed above servers but note that no testing was performed on it. **Note:** Windows 8, 10 and Windows Server 2012 require the following Fix Pack in order to ensure registration of DLLs in Global Assembly Cache: IBM DB2 LUW 10.5 Fix Pack 4 IBM DB2 LUW 10.1 Fix Pack 4 IBM DB2 LUW 9.7 Fix Pack 10 MySQL 5.0, 5.1, 5.5, 5.6, 5.7 MariaDB 5.5.5, 10.2.8, 10.3.2 (using MySQL provider) SAP ASE 15.5, 15.7, 16 SP03, 16.0 SP04 PL06 SAP IQ 15, 16, 16.1 SP05 SAP SQL Anywhere 16, 17.0 SP01 PL11 SAP HANA SPS 08, SPS 09, SPS 10, SPS 11, SPS 12, SAP HANA 2.0, SAP HANA 2.0 SPS 02, SAP HANA 2.0 SPS 08 and SAP HANA Cloud Databases Teradata 12.0, 13.0, 13.10, 14, 15, 16 Access® 2007, 2010, 2013, 2016 **Note:** To use Access 2016 64-bit to connect to an Access database in Toad, the Microsoft Access Database Engine is required and might not be included in the Access installation. The engine must match the architecture (bitness) of Toad. Excel® 2003, 2007, 2010, 2013, 2016 **Note:** To use Excel 2016 64-bit to connect to an Excel or .csv file in Toad, the Microsoft Access Database Engine is required and might not be included in the Excel installation. The engine must match the architecture (bitness) of Toad.
ODBC Database Server	Toad Data Studio allows you to create a connection to a database that supports an ODBC 3.0 or later driver. ODBC connectivity provides basic querying capability, but may not be as full-featured as a native connection in Toad. Toad has been tested on the following databases, using an ODBC connection: • DB2 for i5/OS V5R4 and IBM i 6.1, 7.3 • EDB Postgres Advanced Server 10

Requirement	Details
	• Greenplum® Database • Informix Dynamic 10.00, 11.0 (limited testing) • Ingres Community Edition 2006 R2 on Windows 32-bit (limited testing) • Netezza Data Warehouse Appliance 4.6.6, 6.0, 7.0, 7.2.1 • PostgreSQL® 9.5, 9.6.3, 10, 11, 12, 13, 14, 15, 16 • Vertica 4.1, 5.0, 5.1 (with 4.0, 4.1 ODBC driver), 6.0 (with 6.0 ODBC driver), 6.1, 7.0, 8.1, 9.0
Cloud Database Service	Oracle databases running on Amazon EC2 SQL Azure and Azure SQL Data Warehouse **Note:** To be able to utilize a majority of Toad functionality, please grant VIEW DEFINITION on the SQL Azure databases you want to work with. SQL Server databases running on Amazon EC2 Toad can manage Amazon RDS and any other cloud or service offering compatible with MySQL.
Business Intelligence Connections	Toad has been tested with, and supports, the following Business Intelligence platforms: SAP Business Objects XI 3.1, 4.1 Oracle Business Intelligence Enterprise Edition 12.2 Salesforce.com® Microsoft SQL Server Analysis Services 2016 Google Analytics™ OData version 4 Oracle Fusion SharePoint® Server 2013
NoSQL Connections	Toad has been tested with, and supports, the following NoSQL platforms: Azure Table Services Apache Cassandra™ 3.11.0 Amazon DynamoDB Apache HBASE™ 1.2.6 Apache Hive™ 2.1.0 Cloudera Impala 2.9.0, 3.2.0 with CDH 6.3.2. Toad Data Studio has been certified by Cloudera. MongoDB™ 3.4.6, 3.4.9, 4.0
VM and Cloud Platform Environments	In general, the databases and data sources listed in this table are also supported when installed on a virtual machine (VM) or cloud platform. See the database or data source documentation for more specific information.

Requirement	Details
Additional Testing	**Data Set Size** The following Toad Data Studio functionality has been tested with data sets of up to 5 million rows: SQL Editor, Data Compare, Import Wizard, Export Wizard. For the following Toad Data Studio modules, working with very large data sets can impact performance. For best results in these areas, work with data sets of less than 1 million rows: Pivot Grid, manually sorting a result grid, performing more than one Data Compare at a time (such as running multiple Data Compare Automation scripts simultaneously). **Notes:** • Performance can vary based on available disk space and memory, CPU speed, and the bitness of Toad, as well as the type and number of columns. • Import and export functionality was tested with .csv files.
Security	• The TLS protocol v1.2 or above is required when establishing secure connections to MySQL data sources

Virtualization Support

Requirement	Details
Application Virtualization	When deploying Toad in a virtualization environment, for best results ensure the system accurately reflects the applicable client hardware and software requirements listed in this document. Toad has been developed using Microsoft guidelines (see Remote Desktop Services programming guidelines) and can be deployed and operated in virtualization environments such as Citrix XenApp, Microsoft App-V, and VirtualBox. See "Install Toad on Citrix® Systems" on page 18 for more information.
Server Virtualization	Toad has been tested with the following: • Oracle VM 3.1 running on Red Hat Enterprise Linux 64-bit with Oracle 11gR2 • Oracle VM 2.2 running on Windows 2008 32-bit with Oracle 11gR2

User Requirements

User Requirements to Install Toad

Only Windows Administrators and Power Users can install Toad.

Note: The following exceptions exist for Power Users:

- (DB2 only) A Power User can install Toad as long as this user belongs to the DB2ADMNS or DBUSERS group.

If an Administrator installs Toad, the Administrator can share the Toad shortcut icon on the desktop and menu items with any user—a Power User, Restricted User—on the computer.

If a Power User installs Toad, a Restricted User cannot do the following:

- Associate file extensions.
- View the Toad shortcut icon on the desktop or the Toad menu options in the Windows Start menu. As a workaround, Restricted Users can create a shortcut to Toad from the install directory and place the shortcut on their desktop.

User Requirements and Restrictions for Running Toad

The following describes the requirements and restrictions for users who launch and run Toad:

- (DB2 only) A Windows Power User or Restricted User must belong to the DB2ADMNS or DB2USERS group. To add the user to one of these groups, select **Start | Control Panel | Administrative Tools | Computer Management | System Tools | Local Users and Groups | Groups | DB2ADMNS or DB2USERS**.
- (DB2 only) A Windows Power User or Restricted User does not have the authority to add or remove DB2 catalog entries using the Toad Client Configuration wizard. However, these users can use the Import Profile function in the Toad Client Configuration wizard to import catalog entries to Toad.
- (DB2 only) To take full advantage of Toad for DB2 LUW functionality, the user ID specified in the Toad connection profile for each DB2 for LUW database connection requires the authorizations listed in the following link:

  DB2 LUW connectivity user requirements and restrictions
- (DB2 only) As a minimum requirement to manage a DB2 for z/OS subsystem in Toad, the user ID defined in the Toad connection profile for the subsystem must either have SYSADM privileges or SELECT privileges on the DB2 catalog tables. For a complete list of authorizations (and corresponding GRANT statements) a user requires to take full advantage of Toad for DB2 z/OS functionality, refer to the following link:

  DB2 z/OS connectivity user requirements and restrictions
- To create or modify the QuestSoftware.ToadSecurity table to enable Toad Security, the user who maintains this table must have privileges to create, insert, update, and delete it. All other users need only the ability to read the QuestSoftware.ToadSecurity table to use Toad Security features.

Install Toad

To install Toad

1. Run the *ToadInstaller.exe*.

   For individual installation, the .exe file is recommended. The Microsoft Visual C++ 2015 Redistributable is required by Toad. This software is included in the installation when using the .exe file, but not when using the .msi file. Please ensure Visual C++ Redistributable for VS 2015 is installed prior to installation using the .msi file. See MSI Prerequisites for more information.

   For help with installation errors, see Troubleshoot Installation Errors.

2. Select a destination folder and other options. Review the following for additional information.

Install Wizard Page	Description
Destination Folder	Select a destination folder or use the default.
Additional Properties	**Allow saving passwords**—*(default)* Select to allow Toad to save passwords for data source connections. **Prohibit saving passwords**—Select to prohibit Toad from saving connection passwords. **Note:** If this option is selected, the Automation module will be disabled in this installation of Toad.

Troubleshoot Installation Errors

Error Message: The Microsoft Visual C++ 2015 Redistributable is not installed correctly

You might encounter this error if the prerequisites for the Microsoft Visual C++ 2015 Redistributable are not installed prior to installing Toad. If you encounter this error, do the following:

1. Uninstall the Microsoft Visual C++ 2015 Redistributable using the Control Panel.
2. Install the missing software. See Universal C Runtime Update Prerequisites or use one of the following links:
    - For Windows 7 or Windows Server 2008 R2, install Service Pack 1: https://support.microsoft.com/en-us/kb/976932.
    - For Windows RT 8.1, Windows 8.1, or Windows Server 2012 R2, install the April 2014 update: https://support.microsoft.com/en-us/kb/2919355.
    - For Windows Server 2008, install Service Pack 2: https://support.microsoft.com/en-us/kb/948465.
3. Run the *ToadInstaller.exe* again.

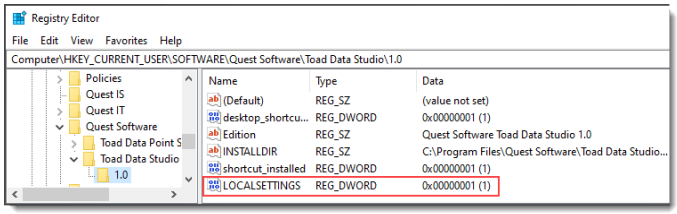
Specify Application Data Directory Location

Toad Data Studio 2025 R2 stores settings files in the user's Application Data directory. The default location cannot be modified from within the application. Toad provides two methods to change the default location: by using a Registry setting or by using a command switch in a Toad shortcut.

Use the Registry setting method to change the application data directory from Roaming to Local. Use the command switch method to change the location to any new path.

To change Toad Application Data directory location from Roaming to Local

In the Registry under Toad Data Studio (Computer\HKEY_CURRENT_USER\Software\Quest Software\Toad Data Studio\2025 R2), add LOCALSETTINGS with a value of *1*.



See the following table for default (Roaming) and resulting (Local) directory path.

Caution: All current Toad settings will be lost after applying this Registry setting unless you manually copy the settings files from the default location (Roaming directory) to the new location (Local directory). Copy the settings files BEFORE you add the Registry setting and BEFORE opening Toad.

Operating System	Default Location	New Location when LOCALSETTINGS = 1
Windows Server 2008 Windows 7 Windows 8 Windows 10	C:\Users*username*\AppData\Roaming\Quest Software\Toad Data Studio 2025 R2	C:\Users*username*\AppData\Local\Quest Software\ Toad Data Studio 2025 R2

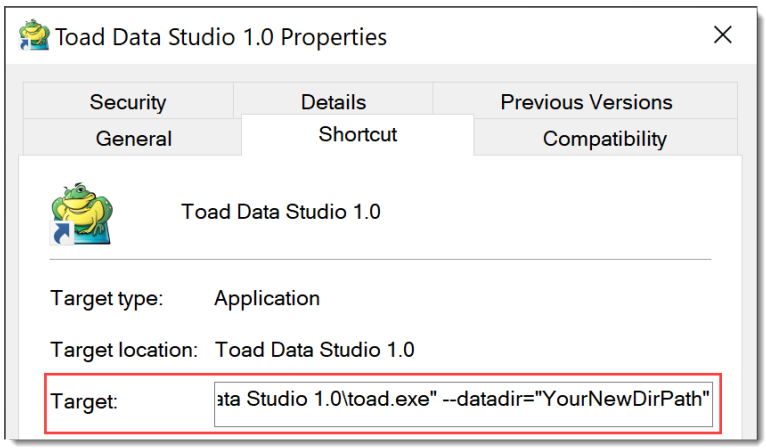
To change Toad Application Data directory location using a command-line switch

You can override the default Application Data directory by running Toad with the command switch:

Toad.exe --datadir="*YourNewDirPath*"

To instruct Toad to always use the new directory path, add the command switch and the new directory path to a Toad desktop shortcut. Then use the desktop shortcut when opening Toad.

1. To add the command switch, right-click the Toad shortcut and select Properties.
2. Enter the command switch and add the directory path in quotes (replace "YourNewDirPath" with your directory path).



Install Toad Silently

Silent installation provides a convenient method for deploying Toad to multiple machines. With some customization, you can also deploy the license key and settings at the same time.

Determine Which Installer to Use

Before performing a silent installation, review the following to determine which installer to use:

Installer	Advantages	Disadvantages
Executable file (.exe)	Silent installation using the .exe file has the following advantages: • Verifies whether the prerequisite software is installed, and if not, redirects you to the download location.	Silent installation using the .exe file has the following disadvantages: • Cannot deploy custom Toad settings files or license keys. • Installer automatically exits if the prerequisite software is not installed.
Microsoft Installer file (.msi)	Supports deployment of Toad settings files and license keys.	Silent installation using the .msi file has the following disadvantages: • Requires manual verification and download of any prerequisite software. • Requires a manual uninstall of the previous version of Toad using Add/Remove Programs.

Silent Installation Prerequisites

Before you can perform a silent installation, the following software must be installed on every computer where you are installing Toad:

- Microsoft .NET Framework 4.7.1
- (Installation using .msi Microsoft installer only) Visual C++ Redistributable for Visual Studio 2015. See Visual C++ Redistributable for VS 2015 for downloads. See KB2999226 - Update for Universal C Runtime in Windows for additional information.

Silent Installation Using the Executable

Use the executable file to perform a silent install to the default directory (or to a different directory) and to specify options such as logging installation messages.

To perform a silent install using the executable file

1. At a Windows command prompt, switch to the drive or directory where the executable for Toad is located.
2. For a standard installation with all features enabled, enter the following command:

   ```
   "ToadInstaller.exe" /S
   ```

   You can customize MSIEXEC command-line options and overrides for your installation similar to the following command:

   ```
   "ToadInstaller.exe" /S /Lx "C:\temp\installLog.txt" INSTALLDIR="Drive:\your_install_path" USERNAME="some_user" COMPANYNAME="your_company" ALLUSERS=1
   ```

   Use the following descriptions to customize the command-line options and overrides for your installation.

   Command-Line Options

   The following MSIEXEC command-line options are used in this example:

Option	Description
/L "*C:\temp\installLog.txt*"	(Optional) Write installation messages to the specified log file. Substitute "*C:\temp\installLog.txt*" in the example with the fully qualified name of the log file. Enclose this value in double quotations. The installation process creates this file if it does not exist. Otherwise, the existing file is overwritten. You can add additional parameters to the logging option to indicate what type of information to log. • **/Lx**—Adds extra debugging information to the log (used in previous example) • **/Lv**—Specifies verbose output • **/L***—Log all information, except that specified by x and v • **/L*v**—Log all information, including v (verbose output) • **/L*x**—Log all information, including x (extra debugging info) • **/L*vx**—Log all information, including that specified by v and x See the log section at http://msdn2.microsoft.com/en-us/library/aa367988.aspx for more information about additional logging parameters.

Option	Description
/64BIT	Setup installs a 64-bit version of Toad. This parameter applies only if written right after the path to the executable, e.g.: `C:\Users\JDoe\Downloads\ToadDataStudio_pro_1.0.0.exe" /64BIT /S /Lx "C:\temp\installLog.txt" INSTALLDIR="C:\Program Files\Quest Software\Toad"`
License="full_path"	Specify the full path to a license file, e.g. License="C:\ProgramData\Quest Software\Toad Data Studio". Toad Data Studio to use Toad with the desired license.

Toad Default Installation Option Overrides

You can specify the following values to override Toad's default installation options. Enclose each value in double quotations.

Option	Description
INSTALLDIR	(Optional) Specify the absolute path for the directory in which you want to install Toad. If you do not include this path, the installation program defaults to: C:\Program Files \Quest Software\Toad Data Studio2025 R2.
ALLUSERS	(Optional) Specify one of the following: • For a per-machine installation, specify *1*. This value allows any user to use the Toad shortcut on the desktop after the installation completes. • For a per-user installation, enter the empty string value ("") This value allows only the user specified for USERNAME (and the user that installed Toad) to see the Toad shortcut on the target desktop. If USERNAME is omitted, only the user that installed Toad sees the shortcut. **Note:** If you do not specify this property, the installation program defaults to a per-user installation.
USERNAME	(Optional) Specify the user that intends to use Toad on the target computer. **Notes:** • If ALLUSERS is omitted or defined with the empty string value (""), only the user specified here (and the user that installed Toad) can see the Toad shortcut on the desktop after the installation completes. • If ALLUSERS is omitted or defined with the empty string value ("") *and* you omit the USERNAME option, only the user that installed Toad sees the Toad shortcut on the desktop. • If ALLUSERS is *1*, the USERNAME value is ignored during installation.
COMPANYNAME	(Optional) Specify the name of the company that owns this installation.
ALLOWPASSWORDS=FALSE	(Optional) Set in order to prohibit users from saving their passwords in Toad.
OPTIONSTEMPLATE	(Optional) Enter a full path to the Options Template that you generated in **Tools | Options | General**.

Option	Description

Notes:

- All default installation option overrides are case-sensitive.
- Enclose all values (except for the ALLUSERS value) in double quotations.

Silent Installation Using the Microsoft Installer

Note: (MSI installs on Windows 7) If you are using MSI to install Toad on Windows 7 with UAC enabled, you can install a file that adds a "Run as administrator" option when right-clicking the MSI file: http://www.symantec.com/connect/downloads/msi-run-administrator-context-menu-vista.

Note: The installer does not verify that system requirements have been met before installing. If you do not want to manually verify system requirements, you should use the .exe file for the silent install.

MSI Prerequisites

Visual C++ Redistributable for Visual Studio 2015 is required by Toad, however it is not installed when you use the Microsoft (.msi) installer. Ensure that this software is installed prior to performing an install using the .msi installer. For downloads, see Visual C++ Redistributable for VS 2015. For related information, see KB2999226 - Update for Universal C Runtime in Windows.

Install both **vc_redist.x86.exe** and **vc_redist.x64.exe**.

This software is required to enable some features in Toad Data Studio, such as Local Storage. This software is included in installation when using the executable (.exe) installer.

Perform Silent Installation Using MSI

You can deploy the license key, custom settings, and connections files when installing using the .msi installer. See "Install Toad Silently" on page 14 for more information.

To perform a silent install using msi

1. At a Windows command prompt, switch to the drive or directory where the msi installer for Toad is located.
2. For a standard installation with all features enabled, enter the following command:

   ```
   msiexec /i "ToadInstaller.msi" /q
   ```

   You can customize command-line options and overrides for your installation similar to the following:

   ```
   msiexec /i "ToadInstaller.msi" INSTALLDIR= "Drive:\your_install_path" /q
   USERNAME="someone" COMPANYNAME="your_company" ALLUSERS=1
   ```

   Command-Line Options

   The following MSIEXEC command-line options are used in this example:

Option	Description
/i	Run the installation.
/q	Specify the user interface (UI) that displays during installation. You can append other options, such as *n* to hide the UI or *b* to hide the Cancel button during the installation.

Note: All command-line options are case-insensitive. See http://msdn2.microsoft.com/en-us/library/aa367988.aspx for a complete list of command-line options.

Toad Default Installation Option Overrides

You can specify the following values to override Toad's default installation options. Enclose each value in double quotations.

Option	Description
INSTALLDIR	(Optional) Specify the absolute path for the directory in which you want to install Toad. If you do not include this path, the installation program defaults to: C:\Program Files \Quest Software\Toad Data Studio2025 R2.
ALLUSERS	(Optional) Specify one of the following: • For a per-machine installation, specify *1*. This value allows any user to use the Toad shortcut on the desktop after the installation completes. • For a per-user installation, enter the empty string value (*""*) This value allows only the user specified for USERNAME (and the user that installed Toad) to see the Toad shortcut on the target desktop. If USERNAME is omitted, only the user that installed Toad sees the shortcut. **Note:** If you do not specify this property, the installation program defaults to a per-user installation.
USERNAME	(Optional) Specify the user that intends to use Toad on the target computer. **Notes:** • If ALLUSERS is omitted or defined with the empty string value (*""*), only the user specified here (and the user that installed Toad) can see the Toad shortcut on the desktop after the installation completes. • If ALLUSERS is omitted or defined with the empty string value (*""*) *and* you omit the USERNAME option, only the user that installed Toad sees the Toad shortcut on the desktop. • If ALLUSERS is *1*, the USERNAME value is ignored during installation.
COMPANYNAME	(Optional) Specify the name of the company that owns this installation.
ALLOWPASSWORDS=FALSE	(Optional) Set in order to prohibit users from saving their passwords in Toad.
OPTIONSTEMPLATE	(Optional) Enter a full path to the Options Template that you generated in **Tools | Options | General**.

Notes:

- All default installation option overrides are case-sensitive.
- Enclose all values (except for the ALLUSERS value) in double quotations.

Install Toad on Citrix® Systems

Toad must be installed on the Citrix server by the Citrix administrator. Users then connect to this instance through their Citrix login.

To install Toad on a Citrix system

1. Connect to the Citrix Environment as an administrator.
2. Copy Toad to the Citrix server, if needed.
3. Start the Toad installation process.
4. During installation, select the **Anyone who uses this computer** checkbox when prompted.
5. Repeat steps 2 through 4 for each server in the Citrix farm.

   Note: Although you must install Toad on every server in the Citrix farm, you only need to publish Toad once.
6. Review the following considerations regarding licensing:
   - A license supplied by an administrator always overrides a user-supplied license in a Citrix environment.
   - If you need to provide the same Toad functionality to all users, you can enter the default license key for all users.

Uninstall Toad

If you uninstall Toad, it may not uninstall completely. When you use Toad, you create new files such as SQL scripts, data output, or temp files, etc. The following types of files are not removed when you uninstall:

- Any new files you create
- Any copies of files you make for backup purposes
- Settings files

You can uninstall Toad Data Studio by using the Installer or by using the Windows Add/Remove Programs (or Uninstall a program) feature. Using the Installer is the preferred way to uninstall Toad Data Studio.

To uninstall Toad

1. Run the *ToadInstaller.exe*.
2. Select **Uninstall Toad Data Studio only**.
3. Complete the wizard.

Configure Toad Layout

Toad can emulate the layout and settings of other products. Use the Configuration Wizard to select a pre-defined layout that matches Toad® for Oracle®, SQL Navigator, or your native database tool. The Configuration Wizard also allows you to specify a skin and grid color.

If you want to group documents using Toad's built-in workflow: Understand, Query, Report, and Automate, select the *Toad for Data Analysts (Original)* option. Then open the Configuration Wizard again and select *Custom* to configure Toad behavior, such as showing/hiding windows, or opening and grouping documents according to the selected workflow group.

You can also manually rearrange windows and panes to customize the Toad workspace. See "Customize Your Toad Workspace" on page 22 for more information.

To configure Toad layout using the Configuration Wizard

1. Select **Tools | Configuration Wizard** (ALT+T+F).
2. To match the look of another product, select a layout option and click **Finish**.

   Review the following layout options before selecting:

Layout and Settings Page	Layout options: • Toad Data Point 3.0—Applies shortcut keys used by Toad Data Point, opens default windows, and adds the Wizard toolbar. • Toad for Oracle—Applies shortcut keys used by Toad® for Oracle® and automatically opens the Project Manager, Editor, SQL Recall, and Output windows. • MS Query Analyzer—Applies shortcut keys used by Query Analyzer and automatically opens the Object Explorer, Code Snippets, and Editor windows. • MS Management Studio—Applies shortcut keys used by Management Studio and automatically opens the Connection Manager and Editor windows. • SQL Navigator—Applies shortcut keys used by SQL Navigator and automatically opens the Navigation Manager, Object Explorer, Editor, and Code Snippets windows. • Toad for Data Analysts (Original)—Applies shortcut keys used by Toad for Data Analysts. This option also displays the Grouping (Toad workflow) toolbar and Wizard toolbar. • Custom—Applies shortcut keys used by Toad Data Studio. This option allows you to select skin and grid styles, as well as Database Explorer display options. Use this option to customize the *Toad for Data Analysts* layout if you have previously selected it. **Tip:** You can set or modify individual keyboard shortcuts in Keyboard Options in **Tools	Options	Environment	Keyboard**. **Note:** If you select a new layout, you may need to restart Toad to see the changes to the Grouping and Wizard toolbars.

3. To customize your layout, select **Custom** and click **Next**. Then specify options on each page of the wizard. Review the following for additional information:

Page	Options
Look and Feel	Select a skin and grid style. • Skin—Applies the skin style you select to document windows, tool windows, and modal dialogs. • Grid style—Applies the grid style you select to the data grid only. A preview of the selected style is automatically displayed in the wizard and in the grid. **Tip:** You can change the skin and grid style later in **Tools |**

Page	Options
	Options | Environment | Interface.
Database Explorer Style	Specify how objects display in the Object Explorer window. **Tip:** Click in the Object Explorer at any time to switch to a different view style.
Quick Guide	Displays a Quick Start Guide that lets you quickly launch frequently used features and tutorials until you are more familiar with the application. **Tips:** • To view this window at anytime, select **View | Quick Guide** from the menu. • To hide this window when starting Toad, select the **Do not show on start up** checkbox at the bottom of the Quick Guide window.
Group Documents	Applies to the **Toad for Data Analysts (Original)** layout. Select this layout option prior to customizing. Specify one or more of the following options: • Use document groups—Associates each open document with its respective group in the Groupings (Toad workflow) toolbar. • Hide windows per group—Displays only those windows that are associated with the selected group in the Groupings toolbar. For example, if the Query group is selected and a Query Builder window is open, it will be hidden when you select the Report group. **Note:** Unless the **Hide windows per connection** checkbox is selected, any connections that have a window open for this group display. • Hide windows per connection—Displays only those windows for the current connection that are associated with the selected group. **Tip:** To hide the Grouping toolbar, select **Tools | Customize**, and then deselect the **Grouping** toolbar in the Toolbar tab.
Group Document Defaults	Applies to the **Toad for Data Analysts (Original)** layout. Select this layout option prior to customizing. Select the default window to open when selecting a group from the Grouping toolbar. **Understand** • Database Diagram—Easily identify relationships between tables via foreign keys. • Database Explorer—Drill-down to details for each object. **Query** • Query Builder—Quickly create complex queries and subqueries using a graphical interface. • SQL Editor—Powerful editor for writing SQL queries and scripts. **Report**

Page	Options
	• Excel—Automatically export query results and open them in Excel. • Toad Report—Send query results to the Toad Data Report wizard.
Wizard Bar	Select to display the Wizard bar, a toolbar containing frequently-used actions for the currently open window. It displays along the bottom of the Toad window. **Tip:** To modify this option later, use the Configuration Wizard.
Connection Documents	Specify which type of new document to automatically open when a new database connection is created. **Tip:** You can modify this option later in **Tools | Options | Database | General**.
Additional Settings	Specify whether to automatically add files to the Project Manager when saving, executing, or sending the files to a report. This option can help you locate and manage your work.

4. Click **Finish** when you are done customizing.

Customize Your Toad Workspace

You can customize your Toad workspace by re-arranging windows and panes. For docked panes selected from the View menu, Toad remembers the configuration of your last open session and displays it when you re-launch the application.

To rearrange windows and panes

1. Open a Toad pane by selecting it from the **View** menu.
2. Drag the pane to a new location in the Toad workspace.
3. Drop the pane into the desired section of the workspace when it becomes highlighted.
4. To move an open window, drag it to the desired area of the workspace and drop it into a highlighted section.

2

Create Connections

Understand Toad Connections

Review this topic to learn about open database connections in Toad.

Toad Open Connections

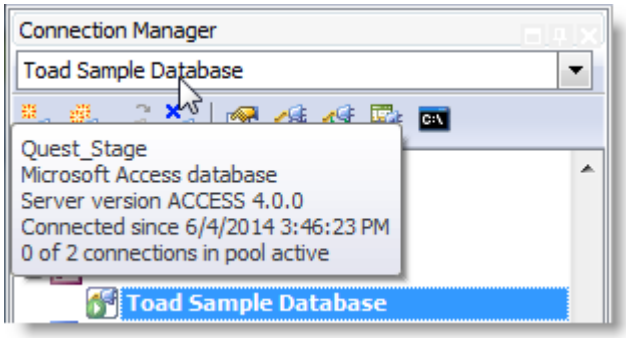
In Toad, an open connection in the Connection/Navigation Manager represents one or more actual connections to the database or data source. When you open a database connection in Toad:

- Toad creates an initial database connection for general use.
- Toad also creates a separate database connection for each Editor (the first time you execute a statement) and for each Data tab in the Database Explorer (the first time you select the tab and query data).

  The connection associated with the window (or tab) remains open until you close the window. If a window has an associated connection, but a statement is not currently executing, the connection is in an inactive state.

To view information for an open connection

- To view the number of actual database connections that exist for a Toad connection, including the number of active connections, place the cursor over the connection in the Connection/Navigation Manager pane or in the connection drop-down list.



To use the Background Processes pane

- When a statement is executing, a progress bar displays in the Status bar located at the bottom of the Toad application window. Click the executing progress bar to open the Background Processes pane.
- To cancel statement execution, use the Background Processes pane.

  Note: It is recommended that you cancel only your own processes, because terminating Toad activities could cause unexpected behavior.

Sharing a Connection Among Windows

You can instruct Toad to share an open connection among windows. In this way, the Editor windows and Data tabs can share the same connection when the connection is inactive.

To share a database connection among windows in Toad

1. Select **Tools | Options | Editor | General**.
2. Clear the checkbox for the **Use individual connection for each open editor** option.
3. When this option is not selected, Toad attempts to use a single connection for any new windows or query execution. For example, if you share a database connection, you can execute a query in the Editor, execute another query in a new Editor, and then select the Data tab from the same connection.

   If the single connection is in use when Toad attempts to execute it, the following occurs:

   - (DB2 and Oracle only) If your database supports executing multiple queries simultaneously on a shared connection, the query is placed in a queue and executes as soon as the current operation completes.
   - If your database does not support executing multiple queries on a shared connection, a dialog prompts you to either permanently associate the window with a new database connection, cancel the previous operation, or add the query to a queue until the current operation completes, and the execute it. If you place multiple queries in the queue, each one executes in the order that it was added to the queue.

Note: Although you can share a database connection, any commits apply to the selected window only.

Create Access Connections

Although this connection uses the ODBC driver, it is easier and faster to connect using this method. See "Troubleshoot Access Issues" on page 68 for more information about troubleshooting connection issues.

Notes:

- The Toad Sample Database and established connection that comes pre-loaded in Toad Data Studio is an Access database. The connection information for this database is:

  Database file = C:\Program Files\Quest Software*ToadInstallDirectory*\Plugins\Odbc\Sample Database\Quest_Stage.mdb

  Additional sample files for this database are available in the Project Manager.

To create an Access connection

1. Click on the toolbar (ALT+F+N).
2. Select *Access* from the **Group** list box.
3. Review the following for additional information:

Database file	Select the database to use when connecting.
MDW file	Select the MDW file that is linked to the database.
Password	Enter the password to use when connecting. **Tip:** After connecting, you can set a master password to further secure your connection in **Tools	Options| Environment	Security**.

Category	Select or create a category if you want to color code Editor tabs for a specific connection. This can help differentiate between development and production databases. You can also set an option to color code the Object Explorer pane and object editor windows (Create, Alter, Drop, etc.).

4. Click **Connect** to connect immediately while saving the connection information. Optionally, click **Save** to save the connection without connecting.

Considerations and Limitations

Consideration/Limitation	Description
Microsoft Access 2016 64-bit Office 365 64-bit	To successfully create a connection to an Access database using Microsoft Access 2016 64-bit, the Microsoft Access Database Engine is required and might not have been included in the Access installation. In addition, the architecture (bitness) of the engine must match the bitness of Toad.

Tip: Connections are stored in the connections.xml file and can be found by clicking the *Application Data Directory* link in **Help | About**.

Click here to view a video about creating connections in Toad Data Studio

Create Amazon Redshift Connections

Toad Data Studio allows you to create a connection to an Amazon Redshift database using ODBC connectivity.

Note: You must have Amazon Redshift ODBC driver 1.3.1.1000 (or later) installed before a native connection is created.

To install the Amazon Redshift ODBC Driver

Download and install the ODBC Driver from the Amazon Redshift Web site.

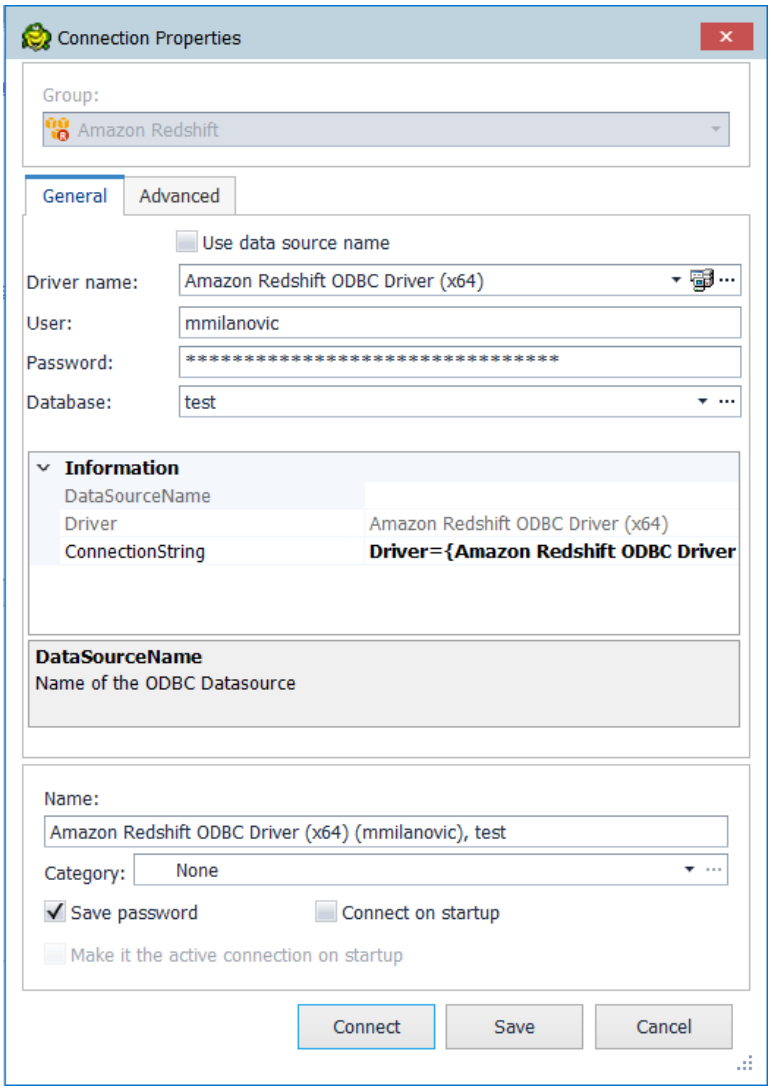
To create a new connection

1. Click on the **Connections** toolbar (ALT+F+N).
2. Select ***Amazon Redshift*** from the **Group** list box.
3. In the **Create New Connection** window configure the connection parameters.

General Tab	Description
Driver name	Uncheck the Use data source name checkbox and select Amazon Redshift (x64) Driver or Amazon Redshift ODBC Driver (x64) depending on the installed version.
User	Enter the username for your Amazon Redshift account.
Password	Enter the password for your Amazon Redshift account.
Database	Enter the name of the Database you would like to connect to or choose from the drop-down list.
ConnectionString	Add the connection string for the Redshift cluster in the ConnectionString field. Add the password string to the PWD= setting in the ODBC URL and paste the ODBC URL to the ConnectionString field: Driver={Amazon Redshift ODBC Driver

	(x64)};Server=<server>;Database=<database>;UID=<user>;PWD=<password>;Port=5439

4. Click **Connect** to save the connection and immediately connect to the database or click **Save** to save the connection without connecting to the database.



Tip: Connections are stored in the connections.xml file and can be found by clicking the *Application Data Directory* link in **Help | About**.

Create SAP Business Objects Connections

Toad allows you to connect to SAP® Business Objects through the Query as a Web Service (QaaWS) component to view and query data in QaaWS Queries.

To create a Business Objects connection

1. Click on the Connections toolbar (ALT+F+N).
2. Select *SAP Business Objects* from the **Group** list.

3. Enter the connection information in the Create New Connection dialog. Review the following for additional information:

URL	Enter the Business Objects URL to which you want to connect. This is the URL to the **Query as a Web Service** component of the Business Objects installation. See "Important Information about Business Objects Connections" on page 27 for more information. **Note:** The URL should be in the following format: http://<server>:<port>/dswsbobje/qaawsservices
Password	Enter the password to use when connecting. **Tip:** After connecting, you can set a master password to further secure your connection in **Tools | Options| Environment | Security**.
Category	(Optional) Select an existing category or create a new one.

Note: In NoSQL and Business Intelligence connections, Toad automatically saves the password in the connections.xml file as obfuscated text, as well as in Toad. To add additional password security, use Toad's Master Password feature.

4. Click **Connect** to connect immediately while saving the connection information. Optionally, click **Save** to save the connection without connecting.
5. Upon creating an initial connection, Toad automatically maps the data source objects. This process runs in the background, and until it is finished, you may experience a delay when attempting to access these objects.

Important Information about Business Objects Connections

To create a Business Objects connection in Toad, you must connect to the **Query as a Web Service** component in Business Objects. The connection URL should have the format:

http://<server>:<port>/dswsbobje/qaawsservices

Where <server> corresponds to your web server address, and <port> corresponds to the port where you set up in your web server. (*dswsbobje* is the default name of the **Query as a Web Service** web application.)

An example URL is http://server01:8080/dswsbobje/qaawsservices.

Tips:

- To specify a default value for a column parameter, select a Query and click .
- Connections are stored in the **connections.xml** file and can be found by clicking the *Application Data Directory* link in **Help | About**.
- You can specify a proxy server to use for Business Intelligence and NoSQL connections at **Tools | Options | Database | Data Services**.

Create Databricks Connections

Toad allows you to create a native Databricks connection, which provides you with a full-featured Object Explorer, Query Builder and SQL Editor.

Note: You must have a Simba Apache Spark ODBC Connector 2.8.2 (or later) installed before a native connection is created.

To install the Simba Apache Spark ODBC Connector

Download and install the ODBC Connector from the Databricks Web site.

1. Click on the **Connections** toolbar (ALT+F+N).
2. Select **Databricks** from the **Group** list box.
3. Enter the connection information in the **Create New Connection** dialog.
4. Review the following for additional information:

General Tab	Description
Host	Enter the server where the Databricks instance is hosted.
Authentication	Select the type of authentication to use for this connection. Toad offers two options: • Personal access token • OAuth 2.0 token
Port	The default port number is 443
HTTP Path	Enter the endpoint used to route queries to the appropriate cluster or resource.
Token	Enter your authentication token
Optional	**A connection can be made without providing this information**
Catalog	Enter the name of the Catalog you would like to connect to

5. Click **Connect** to save the connection and immediately connect to the database.

   or

   Click **Save** to save the connection without connecting to the database.

Tip: Connections are stored in the connections.xml file and can be found by clicking the Application Data Directory link in **Help | About**.

Configure DB2 Client Connections

Setting up connections to the DB2 for LUW databases and DB2 for z/OS subsystems that Toad will manage requires two main steps.

Step 1. Configure DB2 client connections - Before you can create a connection profile, each of the databases or subsystems must be cataloged on the DB2 client. This topic helps you with that process.

Step 2. Create connection profiles - Step 2 involves creating Toad connection profiles for the cataloged DB2 databases or subsystems. Each profile contains the information that Toad needs to connect to the system, such as the user ID and password, DB2 registry settings, and the default schema. See "Create Toad Connection Profiles for DB2" on page 34 for more information.

Note: You must have a DB2 client installed before you can configure client connections and create connection profiles. Refer to IBM for information regarding a DB2 client download, http://www-01.ibm.com/software/data/db2/linux-unix-windows/downloads.html, or consult your organization's IT department. For a list of supported DB2 client versions, see the Toad Data Studio Release Notes.

Configure DB2 Client Connections

Use one of the following methods to catalog each of the databases or subsystems on the DB2 client.

Transfer a Catalog Any Time After Initial Setup

Use this method to transfer a catalog from another DB2 client on your machine to your default DB2 client. If you previously used the Toad DB2 client installed with the product in prior versions, use this method to transfer the catalog from the previous Toad DB2 client to your current default DB2 client.

To transfer a catalog any time after initial setup

1. In the Connection Manager, click in the toolbar.

   Note: If the Client Configuration Wizard opens, Toad found only one DB2 client installed.

2. From the **DB2 Client** list, select the name of the DB2 client whose catalog you want to transfer to your default DB2 client.

   This list contains all current previously installed DB2 clients on your computer, including the default DB2 client instance and any Toad DB2 client installations.

3. Click **OK**.

4. To create a connection in Toad for any of the transferred catalog entries, see Create Toad Connection Profiles for DB2.

Import a DB2 catalog previously exported to a file

To import an exported catalog profile

1. In the Connections (or Create New Connection) window, click beside the **Database alias** drop-down list to open the Client Configuration wizard.

2. On the Welcome page, select **Import Profile**.

3. Click **Next**.

4. Click in the **Profile name** field to browse for and select the exported profile you want to import. When you select the profile, its contents display in the text pane.

5. Complete the wizard.

   Once you close the wizard, the **Database alias** drop-down list in the Connections window includes all the DB2 databases and subsystems whose catalog entries you imported.

   Note: DB2 does not automatically export catalog entries for the local DB2 instance and its databases on the computer from which the export is run (unless these entries already exist in the catalog). Therefore, the profile you are importing might not include these node entries. To add the missing entries to your DB2 client catalog, you must manually catalog the databases. If these databases are local to your computer, catalog them as remote databases. See "Manually catalog DB2 for LUW databases " on page 30 for more information.

6. Proceed to catalog entries as needed. See "Create Toad Connection Profiles for DB2" on page 34 for more information.

Manually catalog DB2 for LUW databases

To manually catalog a DB2 for LUW database

1. In the Connections (or Create New Connection) window, click beside the **Database alias** drop-down list to open the Client Configuration wizard. The Welcome page displays, showing the DB2 client's existing catalog configuration in a tree view.
2. If the host and node names for the database you want to configure are listed in the tree, select them. These selections pre-fill certain fields required later in the wizard process. If these names are not listed, you must provide the necessary host and node information later in the wizard.
3. Click **Add Catalog Entry**.
4. Review the following for additional information:

Add a Host	**Description**
Operating system	Select the operating system for the server on which the DB2 for LUW instance containing the DB2 database you are cataloging resides. For a list of supported server platforms, see the release notes.
Host name	Enter the TCP/IP address or the system name for the server on which the DB2 database resides.
Port number	Enter the port number for the server on which the DB2 database resides.
Security type	Select a secure protocol to handle TCP traffic for this connection.
Specify an Instance	**Description**
Node name	Enter a user-defined name for the DB2 instance containing the database you are cataloging. If you selected the node name from the tree on the Welcome page, this information is pre-filled (but you can update it as needed).
Instance name	Enter the real name of the DB2 instance.
Comment	Enter a descriptive comment for the instance, if needed.
Add a Database	**Description**
Database name	Enter the real name of the DB2 database.
Database alias	Enter a unique nickname to identify the database on your system.
Authentication	Select the authentication method that is required to connect to the database.
Target principal	Enter the service account name for server's service where the database resides. **Note:** This option is available only when *Kerberos* is selected as the authentication method.

5. Complete the wizard.

   The **Database alias** drop-down list in the Connections window shows the alias for the newly cataloged database. To complete the Toad connection setup, you must create a Toad connection profile for the database. See "Create Toad Connection Profiles for DB2" on page 34 for more information.

Manually catalog DB2 for z/OS subsystems

Note: If you connect directly to a DB2 for z/OS subsystem, you cannot take advantage of Sysplex. If you want to use Sysplex, catalog an entry to a DB2 Connect gateway instead. See "Manually catalog DB2 Connect gateways " on page 31 for more information.

To manually catalog a DB2 for z/OS subsystem

1. In the Connections (or Create New Connection) window, click beside the **Database alias** drop-down list to open the Client Configuration wizard. The Welcome page displays, showing the DB2 client's existing catalog configuration in a tree view.
2. If the host name for the DB2 subsystem you want to configure is listed in the tree, select it. This selection pre-fills certain fields required later in the wizard process. If the host name is not listed, you must provide the necessary host information later in the wizard.
3. Click **Add Catalog Entry**.
4. Review the following for additional information:

Add a Host	**Description**
Operating system	Select *z/OS* for the server operating system.
Host name	Enter the TCP/IP address or the system name for the server on which the DB2 subsystem resides.
Port number	Enter the port number of the service for the DB2 subsystem.
Enable SOCKS security	Select this checkbox to enable the SOCKS secure protocol to handle TCP traffic for this connection. SOCKS adds an authentication mechanism for additional security.
Add a DB2 Subsystem	**Description**
Location name	Enter the location name of the DB2 subsystem as defined during the DB2 installation.
Database alias	Enter a unique, user-defined alias to identify the DB2 subsystem on your system. You can use the same name you used in the previous **Location name** field, as long as it does not already exist in the list aliases in the DB2 client.

5. Complete the wizard. A message informs you whether the entry was added successfully.

   The **Database alias** drop-down list in the Connections window shows the alias for the newly cataloged subsystem. To complete the Toad connection setup, create a Toad connection profile for the database. See "Create Toad Connection Profiles for DB2" on page 34 for more information.

Manually catalog DB2 Connect gateways

In order to connect to a DB2 for z/OS subsystem, you need to catalog two entries. First, you need to catalog the DB2 subsystem on the DB2 Connect gateway. During this process, you define an alias for the DB2 subsystem. Second, you need to catalog this DB2 subsystem alias in Toad. The procedure below describes both cataloging events.

To manually catalog an entry to a DB2 Connect gateway

1. Catalog the DB2 subsystem on the DB2 Connect gateway. See the IBM DB2 for z/OS documentation for more information.
2. In the Connections (or Create New Connection) window in Toad, click beside the **Database alias** drop-down list to open the Client Configuration wizard.
3. Click **Add Catalog Entry**.
4. Review the following for additional information:

Add a Host	Description
Operating system	Select the operating system for the server on which the DB2 Connect gateway resides.
Host name	Enter the TCP/IP address or the system name for the server on which the DB2 Connect gateway resides.
Port number	Enter the port number of the service for the DB2 Connect gateway.
Enable SOCKS security	Select this checkbox to enable the SOCKS secure protocol to handle TCP traffic for this connection. SOCKS adds an authentication mechanism for additional security.
Specify an Instance	**Description**
Node name	Enter an alias for the user-defined node name you specify in the **Instance name** field.
Instance name	Enter a user-defined name for the gateway node or use the same value entered in the **Node name**. **Note:** This name does not point to an actual node on the gateway system, but is needed to continue the cataloging process.
Add a Database	**Description**
Database name	Enter the database alias name for the DB2 subsystem. **Note:** This alias name must match the alias cataloged on the DB2 Connect gateway.
Database alias	Enter a unique, user-defined alias for the DB2 Connect gateway. You can use the same alias you used in the previous **Database name** field, as long as it does not exist in the list of Toad for DB2 aliases.
Authentication	Select the authentication method that matches the method specified for the DB2 subsystem on the DB2 Connect gateway.

5. Complete the wizard.

   The **Database alias** drop-down list in the Connections window shows the name for the newly cataloged DB2 subsystem. To complete the Toad connection setup, you must create a Toad connection profile for the subsystem. See "Create Toad Connection Profiles for DB2" on page 34 for more information.

Note: Toad for DB2 supports LDAP connections. See "Configure DB2 LDAP Support" on page 34 for more information.

Maintain DB2 Client Connections

Additionally, Toad provides functionality to perform the following maintenance on the catalog you set up for the current DB2 client:

Edit DB2 catalog entries

To edit a DB2 catalog entry

1. In the Connections (or Create New Connection) window, click beside the **Database alias** drop-down list to open the Client Configuration wizard.
2. In the catalog configuration tree for the DB2 client, select the catalog entry for the DB2 database or subsystem that you want to edit.
3. Click **Edit Catalog Entry**.

4. On the Edit Catalog Entry page, update the catalog properties as needed. For a description of the catalog properties, see the following links:
    - Manually catalog DB2 for LUW databases
    - Manually catalog DB2 for z/OS subsystems
    - Manually catalog DB2 Connect gateways
5. Click **Next** to open the Catalog Script Review window.
6. Review and modify the script in the preview pane as needed.
7. Click **Finish**. A message window displays, informing you whether the updates to the catalog entry completed successfully.

Remove DB2 catalog entries

To remove a DB2 catalog entry

1. In the Connections (or Create New Connection) window, click beside the **Database alias** drop-down list to open the Client Configuration wizard.
2. In the catalog configuration tree for the DB2 client, expand one or more nodes, and select the catalog entries that you want to remove. (Press CTRL+click to select multiple entries.)

    Note: You can remove a node by selecting all database entries for that node.
3. Click **Remove Catalog Entry**.
4. On the Catalog Script Review page, modify the script in the preview pane as needed.
5. Click **Finish**. A message window displays, informing you whether the removals completed successfully.

Export the catalog for the current DB2 client

Toad provides functionality to export your current DB2 client catalog to a file, called an *export profile*. You can then import this profile to set up the catalog for another DB2 client.

To create the export profile containing the current DB2 client catalog, Toad executes the DB2 Connectivity Configuration Export Tool command `db2cfexp`. If you want to export the catalog of a remote or local DB2 client (other than your current DB2 client), you must manually execute this command.

To export the DB2 client catalog

1. In the Connections (or Create New Connection) window, click beside the **Database alias** drop-down list.
2. Click **Export Profile** in the Welcome window of the Client Configuration wizard. (You might need to click this button.)
3. Click **Next**.
4. Click in the **Profile name** field to browse for and select the path for the profile in which to export the current DB2 client catalog.
5. Select the type of profile you want to create:
    - *Template* to create a profile used as a template for other DB2 clients (default for exporting a DB2 catalog)
    - *Backup* to create a profile used to back up a DB2 database instance
    - *Maintain* to create a profile that contains only database or node information required for updating other instances

For more information about these profile types, see the IBM documentation (as cited previously) describing the `db2cfexp` command.

6. Complete the wizard. A message window displays, informing you whether the export completed successfully.

   Note: DB2 does not automatically export catalog entries for the local DB2 instance and its databases installed on your computer unless these entries already exist in the catalog you are exporting. If you later import the export catalog to a DB2 client, you must manually catalog the missing local-node databases as remote databases. See "Manually catalog DB2 for LUW databases " on page 30 for more information.

After you have set up the catalog on the current DB2 client, you can proceed to the second phase of the Toad connection setup. This phase involves creating Toad connection profiles for the cataloged DB2 databases or subsystems. See "Create Toad Connection Profiles for DB2" on page 34 for more information.

Configure DB2 LDAP Support

You can create DB2 Lightweight Directory Access Protocol (LDAP) connections when the DB2 client installed with Toad is configured for LDAP. Configuring the client consists of enabling LDAP support and specifying the host name and port number of the LDAP server. Once the client is configured, Toad retrieves names from your LDAP server and displays them in the **Database Alias** list in the Connections window.

Notes:

- You must configure LDAP support for the DB2 client installed with Toad regardless of whether an existing DB2 client on the computer is already configured to support LDAP.
- Currently, Toad for DB2 supports only the access of DB2 LDAP catalog entries. Toad does not support the management of these entries.

To configure the DB2 client for LDAP

1. Open the Command Window for the DB2 client installed with Toad by selecting **Start | All Programs | IBM DB2 | <ToadCom, ToadEval, or ToadFree> | Command Line Tools | Command Window**.
2. Enter the following command to enable LDAP support:

   ```
   db2set DB2_ENABLE_LDAP=YES
   ```
3. Enter the following command to specify the TCP/IP host name and port number of the LDAP server:

   ```
   db2set DB2LDAPHOST=<hostname[:port]>
   ```

   The port number defaults to 389 (default LDAP port) if you leave the port number blank.
4. Exit the Command window.
5. Launch Toad and open the Connections window.

   Databases on the LDAP server should be available from the **Database alias** drop-down list in the Connections window. To complete the Toad connection setup, you must create a Toad connection profile for each database. See "Create Toad Connection Profiles for DB2" on page 34 for more information.

Create Toad Connection Profiles for DB2

Setting up connections to the DB2 for LUW databases and DB2 for z/OS subsystems that Toad will manage requires two steps.

Step 1. Configure DB2 client connections - If you use a DB2 client each of the databases or subsystems must be cataloged on the client. See Configure DB2 Client Connections to learn how to catalog databases/subsystems.

Step 2. Create connection profiles - Step 2 involves creating Toad connection profiles for DB2 databases or subsystems that were either cataloged in the DB2 client or imported from your Data Server Driver configuration file. Each profile contains the information that Toad needs to connect to the system, such as the user ID and password, DB2 registry settings, and the default schema. If you use IBM DSD environment you can import your connection profile from a Data Server Driver configuration file.

Note: You must have a DB2 client installed before you can configure client connections and create connection profiles. Refer to IBM for information regarding a DB2 client download, http://www-01.ibm.com/software/data/db2/linux-unix-windows/downloads.html, or consult your organization's IT department. For a list of supported DB2 client versions, see the Toad Data Studio Release Notes.

Note: The default location of your Data Server Driver configuration file is in ...Program Data\IBM\DB2\IBMDBCL1\cfg. The default config filename is db2dsdriver.cfg.

Note: When you connect using IBM Data Server Driver the Database button and the toolbar option in Tools | LUW Database Options will not be available.

Click here to view a video about creating connections in Toad Data Studio

Connection Using a Custom Connection String

You can also connect to your DB2 database/subsystem using a custom connection string.

- Select Connect Using | Connection String in Connection Properties
- Enter Database alias, Host name, Login, and Password and the connection string will be automatically updated according to what you enter
- You can save a connection created using a custom connection string in your Connection Manager

Create Connection Profiles

Use one of the following methods to create Toad connection profiles:

- Import Toad connection profiles previously exported to an XML file

  (See "Export connection profiles to an XML file" on page 36 for more information about exporting a profile that you can later import.)

  Note: The connection profiles are not usable unless you have also created entries in the DB2 catalog for the DB2 databases and subsystems to which these profiles correspond. See "Configure DB2 Client Connections" on page 28 for more information.

  To import connection profiles

  1. In the Connections (or Create New Connection) window, click on the toolbar, and select **Connection file**.
  2. From the Import Connections window, browse for and select the XML file containing the connection profiles you want to import.
  3. Click **Open**.
  4. Select *DB2* and click **OK** to complete the import.

     The connections whose profiles you imported are listed on the Connections window.
- Manually define Toad connection profiles.

To create a Toad connection profile for a DB2 database or subsystem

1. In the Connections (or Create New Connection) window, click on the toolbar (ALT+F+N).
2. Select *IBM DB2 LUW* or *IBM DB2 z/OS* from the **Group** list box.
3. Review the following for additional information:

Database alias	Select the alias for the DB2 database or subsystem. This alias was defined when you cataloged this DB2 database or subsystem on the DB2 client. See "Configure DB2 Client Connections" on page 28 for more information if the alias does not display in the list. **Tip:** Click to refresh the alias list. Normally, Toad caches the DB2 catalog the first time you open this window in your Toad session and continues to read from cache each time you subsequently open this window. This button forces Toad to reread the DB2 catalog to list any new systems that might have been cataloged externally during the caching period.
Default schema/auth ID	Enter the SET SCHEMA value (DB2 for LUW) or the SET SCHEMA or SET CURRENT SQLID value (DB2 for z/OS) for this connection.
Category	Select or create a category if you want to color code Editor tabs for a specific connection. This can help differentiate between development and production databases. You can also set an option to color code the Object Explorer pane and object editor windows (Create, Alter, Drop, etc.).

4. Select the Advanced tab to define special register values that are then in effect each time Toad connects to the DB2 database or subsystem.
5. Click **Connect** to save the connection and immediately connect to the database.

   or

   Click **Save** to save the connection without connecting to the database.

Manage Connections

After you have completed both phases for configuring Toad connections to DB2 databases or subsystems, the Connections window lists all the configured connections, allowing you to perform the following:

- Connect to and manage a DB2 database or subsystem through Toad
- Export connection profiles to an XML file

  Toad for DB2 provides functionality to export one or more of your current Toad connection profiles to an XML file. You can then import these exported connection profiles into another Toad installation. See "Import Toad connection profiles previously exported to an XML file " on page 35 for more information.

To export connection profiles

1. In the Connections (or Create New Connection) window, select the connections whose profiles you want to export.
2. Click on the toolbar, and select **Connection file**.
3. On the Export Connections window, review the selected connections, and click **OK**.
4. Browse for and select the path for the file in which to export the selected profiles.

- Import missing connections defined on the Toad client

  You can import all connection entries currently defined in the DB2 client catalog or Data Server Driver configuration file but missing from your current list of Toad connections.

  Note: Default location for Data Server Driver configuration files is in ...\IBM\DB2\IBMDBCL1\cfg.

  Note: The imported connection entries might be associated with incorrect or missing DB2 catalog or Toad connection profile information, making them currently invalid. To re-instate any of these connections, you might need to provide accurate DB2 catalog and Toad profile information.

  To import missing connections

  - In the Connections or Connections Manager window, click .

- Troubleshoot connection issues

Note: Click to open the Client Configuration Wizard. See "Configure DB2 Client Connections" on page 28 for more information.

Tip: Connections are stored in the connections.xml file and can be found by clicking the *Application Data Directory* link in **Help | About**.

Create Excel Connections

Connecting to an Excel file is easy. To create the connection, simply open the Excel file from the Create New Connection dialog .

To create an Excel connection

1. Click on the Navigation or Connection Manager toolbar.
2. Select *Excel* from the **Group** list.
3. Browse to and select the Excel file.
4. Complete the Create New Connection dialog. Review the following for additional information:

General Tab	Description
Category	Select a category if you want to color code your connection. **Tip:** The color is applied in the Connection Manager and other connection dialogs. You can also create a new category for your connection.
Advanced Tab	**Description**
Enable import mode	Select this checkbox to set IMEX=1 in the connection string, which converts intermixed data to text.
Show system tables	Select to display worksheets as system tables. Toad uses the worksheet name suffixed with a dollar sign ($).
Automatically create ranges	Select this option if you want Toad to automatically create named ranges. Toad creates one named range in each worksheet (unless the Toad name, AutoRange_<worksheet name>, already exists). **Note:** Toad does not overwrite the user defined named ranges. The Toad-created named ranges and the user defined named ranges are both visible in the Object Explorer after connecting. Deselect this option if the Excel file contains user defined named ranges and you do not want Toad to create additional named ranges.

	Important: If you deselect this option, and your Excel file does not contain named ranges, Toad is unable to create tables from your data. The feature is *selected* by default.
Hide named ranges	Select the named ranges to hide. **Note:** Named ranges are not displayed until after a connection is created (in the Connections or Connection Properties dialog). In Excel 2007 files, named ranges are not displayed for active connections.
Open in Excel	Click to open the selected file in Excel. This is useful if you want to modify your file or define named ranges before connecting.

4. Click **Connect** to connect immediately while saving the connection information. Optionally, click **Save** to save the connection without connecting.

Understand how Toad creates data tables from an Excel file

Toad uses Excel named ranges (regions) to define the data to include in a table. Therefore, any data that you want to display and easily query in Toad must be included in an Excel named range (region).

You can create named ranges using one of the following methods:

- Preferred method: You can ask Toad to automatically create named ranges when you create the connection to the Excel file. Toad creates one table from each worksheet and includes the contents of every formatted cell.
- If you do not want to include a worksheet's entire contents in one named range, or if a worksheet contains more than one table, then define the named ranges ahead of time in Excel.

To create a named range in Excel

1. In the Excel file, select the data that you want to include in the table (including column headings). Then define a named range.
   - » In Excel 2003, select **Insert | Name | Define**.
   - » In Excel 2007, right-click the data and select **Name a Range**.
2. Save your Excel file. In Toad, create a new connection to the file. In the New Connection dialog, deselect **Automatically create ranges**.

To allow Toad to automatically create named ranges

» When creating a new connection to the Excel file, in the New Connection dialog, select **Automatically create ranges**. Toad creates one named range for each worksheet and includes the contents of every formatted cell.

Tip: For an Excel file with an existing connection, in the Navigation Manger, right-click the file and select **Properties**. On the Advanced tab, select **Automatically create ranges**. Toad creates the named ranges the next time you reconnect to this file.

To hide named ranges

You can hide an Excel file's named ranges so that they do not display as tables in the Object Explorer.

1. In the Navigation Manager, right-click an Excel file connection and select **Properties**.

   Note: In Excel 2007 files, the connection must be inactive for the named ranges to display.
2. On the Advanced tab, select the named ranges to hide.

To view or modify connection properties

To view an Excel connection's properties, do one of the following:

- Right-click an Excel file connection in the Navigation or Connection Manager and select **Properties**.
- Select on the Connections toolbar to open the Connections dialog. Select the Excel file connection in the left pane to view the connection properties in the right pane.

Considerations and Limitations

Consideration/Limitation	Description
Excel 2016 64-bit or Office 365 64-bit	To successfully create a connection to an Excel file using Excel 2016 64-bit, the Microsoft Access Database Engine is required and might not have been included in the Excel installation. In addition, the architecture (bitness) of the engine must match the bitness of Toad. **Note:** This requirement applies only to connections to Excel, not to the Toad functionality of importing/exporting to Excel.

Troubleshoot Excel

To troubleshoot Excel issues, see the following:

- See "Troubleshoot Excel® Issues" on page 71 for more information about troubleshooting Excel connection issues.
- For a list of Excel file limitations from Microsoft, see Microsoft Excel specifications and limits.

Click here to view a video about creating connections in Toad Data Studio

Tip: Connections are stored in the connections.xml file and can be found by clicking the *Application Data Directory* link in **Help | About**.

Create SharePoint Connections

Toad allows you to connect to SharePoint via OData service to view and query SharePoint lists as tables. Toad supports SharePoint 2010 and 2013. You can also create a connection to SharePoint Online.

To create a SharePoint connection

1. Click on the Connections toolbar (ALT+F+N).
2. Select *SharePoint* from the **Group** list.
3. Enter the connection information in the Create New Connection dialog. Review the following for additional information:

URL	Enter the full URL address to the SharePoint OData service endpoint for the SharePoint site to which you want to connect. The URL address should have the following format: http://<servername>/_vti_bin/listdata.svc
Authentication	Select the type of authentication to use for this connection. Toad offers two options: • Basic Authentication • Active Directory Universal with MFA The required login fields will be enabled or disabled according to the authentication

	type that is chosen.
Username	For SharePoint—Enter your Windows user name to use when connecting to this SharePoint site. For SharePoint Online—Enter the user name to use when connecting to this instance of SharePoint Online.
Password	Enter the password to use when connecting. **Tip:** After connecting, you can set a master password to further secure your connection in **Tools | Options| Environment | Security**.
SharePoint Online	Select this option if creating a connection to a SharePoint Online instance.
Category	(Optional) Select an existing category or create a new one.

Note: In NoSQL and Business Intelligence connections, Toad automatically saves the password in the connections.xml file as obfuscated text, as well as in Toad. To add additional password security, use Toad's Master Password feature.

4. Click **Connect** to connect immediately while saving the connection information. Optionally, click **Save** to save the connection without connecting.
5. Upon creating an initial connection, Toad automatically maps the data source objects. This process runs in the background, and until it is finished, you may experience a delay when attempting to access these objects.

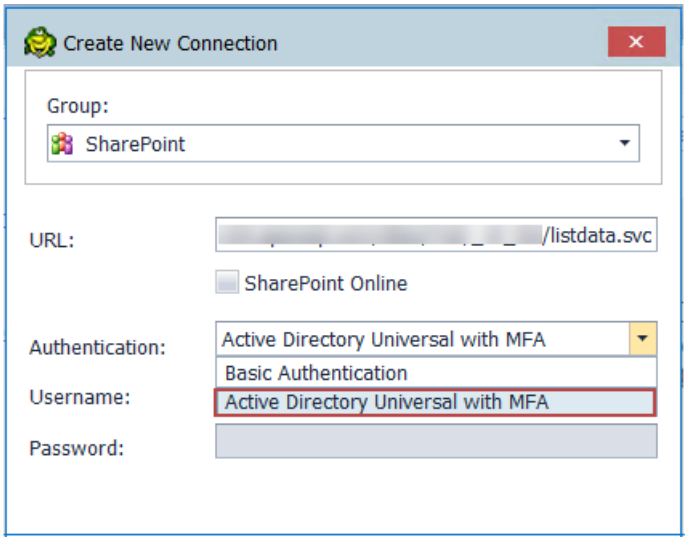
Tips:

- Connections are stored in the **connections.xml** file and can be found by clicking the *Application Data Directory* link in **Help | About**.
- You can specify a proxy server to use for Business Intelligence and NoSQL connections at **Tools | Options | Database | Data Services**.

SharePoint Connections with Multi-factor Authentication

To create this type of connection to **SharePoint**, **Active Directory Universal with MFA** needs to be selected from the Authentication field dropdown.

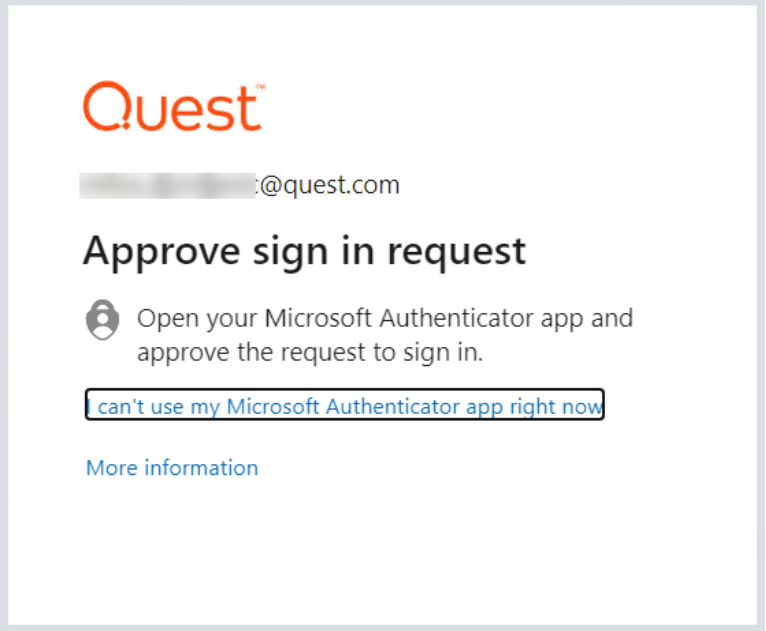
The next step is to enter a user name which has been configured for multi-factor authentication and click on **Connect**.



Toad Authentication Window will appear allowing you to select either **Windows Authentication** or **AzureADTrust** for the type of credentials which will be used for the connection.

The step that follows will enable you to select a user from the list or add another one by clicking on **Use another account.**

After that, you will be prompted to enter your credentials and depending on the type of authentication that the account has been configured with, you will undergo an additional authentication step, such as the one in the image below.



After completing the final authentication step, a successful connection to **SharePoint** will be made.

Limitations of SharePoint connections with Multi-factor Authentication

- Setting a default **SharePoint** connection in **Tools|Options|Environment** is currently available only for Basic Authentication

Create Google Analytics Connections

Toad allows you to create connections to your Google Analytics data. A connection in Toad allows you to access the Google Analytics accounts and data that are available to you from your Google *user* account.

If you have multiple Google user accounts, you can create a separate Google Analytics connection in Toad for each account. For an explanation of Google accounts, see the following:
https://developers.google.com/analytics/resources/concepts/gaConceptsAccounts

About Google Analytics Connections

When you create a Google Analytics connection in Toad, you log in to Google using your Google account. During the connection creation process, you also grant Toad access to the Google Analytics data accessible from that Google account.

Toad provides you with an interface to the Google log-in and authorization pages and displays these pages within the Create New Connection (and Connection Properties) dialog. The Google pages displayed are independent of

Toad. The log-in process is the same as you normally encounter with your other Web-based Google log-in procedures. The only difference is that by creating a connection in Toad, you are giving Toad permission to access your Google Analytics data. This is accomplished when you click *Accept* in the Google authorization page.

Create Google Analytics Connections

To create a Google Analytics connection

1. Click on the Connections toolbar (ALT+F+N).
2. In the **Group** list, select *Google Analytics*. The Google log-in page immediately displays within the Create New Connection dialog.
3. Enter the credentials (email address and password) for your Google account and click **Sign in**.

   Note: If you have multiple Google accounts and have previously logged in to Google (or connected through Toad), the Google log-in page may display the last Google account used. To specify a different Google account for the new connection, use the Google links/menu to select another account.
4. (optional) You can enter a name for your new account and select a category. You can also make these modifications later using the Connection Properties dialog.
5. In the Google authorization page that displays, click **Accept** to allow Toad access to your Google Analytics data. Toad then attempts to establish a connection to Google Analytics. If the connection is successful, the Create New Connection dialog closes.
6. Upon creating an initial connection, Toad automatically maps the data source objects. This process runs in the background, and until it is finished, you may experience a delay when attempting to access these objects.

Reauthorizing a Connection

If you encounter an error message when attempting to connect using your Google Analytics connection, Toad's authorization (access) to the Google account for that connection may have been lost. Use the following procedure to re-establish authorization for the connection.

You can also use this procedure to specify a different Google log-in account for a connection.

To Reauthorize

1. In the Navigation Manager, disconnect from the connection. You must disconnect before you can re-authorize.
2. After disconnecting, right-click the connection and select **Properties**.
3. In the Connection Properties dialog, click **Reauthorize**.
   - If you are no longer logged in to Google, the Google log-in page displays.
     - To reauthorize using the same Google account, re-enter your Google account credentials and click **Sign-in**. Then click **Accept** on the authorization page.
     - To specify a different Google account for this connection, use the Google links to switch the account just as you normally would in the Google Web site. Once you specify a different account, this is the Google account associated with this connection in Toad. Click **Sign-in**. Then click **Accept** on the authorization page.
   - If you are still logged in to Google, the Google page for granting Toad access to your Google Analytics data displays.

- To reauthorize using the same Google account, click **Accept**.
- To specify a different Google account for this connection, use the Google menu or links to switch the Google account just as you normally would in the Google Web site. Once you specify a different account, this is the Google account associated with this connection in Toad. Click **Sign-in**. Then click **Accept** on the authorization page.

Notes:

- You can specify a proxy server to use for Business Intelligence and NoSQL connections at **Tools | Options | Database | Data Services**.

Create Hive Connections

Toad allows you to connect to a Hive data warehouse system. Apache Hive is one of the NoSQL data sources supported by Toad.

To create a Hive connection

1. Click on the Connections toolbar (ALT+F+N).
2. Select *Apache Hive* from the **Group** list.
3. Enter the connection information in the Create New Connection dialog. Review the following for additional information:

Server tab	
Host	Enter the host name or IP address of the Hive data source.
Port	Enter the port number.
Schema	Enter a Hive schema to open upon connection. (HiveServer2 only) After connecting, you can select a different available schema in the Object Explorer.
Server type	Select the version of HiveServer the host uses, HiveServer1 or HiveServer2.
Use SSL	(HiveServer2 only) Select to use SSL to connect to Hive.
HTTP mode	(HiveServer2 only) Select to connect to HiveServer2 running in HTTP mode. Then enter the service endpoint. The default is *cliservice*.
Session Initialization	(HiveServer1 only) Enter any Hive session initialization commands. These commands will be executed once, at the start of each connection.
Category	(Optional) Select an existing category or create a new one.
Authentication tab (HiveServer1)	
Connect with SSH	Select to use SSH to connect to Hive. Then enter a user name and select an authentication method (key file or password).
SSH user	Enter the user name to log in when using SSH.
SSH port	Select the SSH port number. The default is 22.
Authenticate with a key file	Select if the host uses a key file to authenticate the SSH user field. **Private key path**—Enter the absolute path (including file name) to the private key file on the host (not the client). **Pass phrase**—Enter your passphrase.

Authenticate with a password	Select if the host uses a password to authenticate the SSH user field. **Password**—Enter the password to log in using SSH.
Authentication tab (HiveServer2)	
Authentication	Select an authentication method. To enter only a user name, select the **Username and password** method.
Username	Enter the user name to use for this connection. If using Kerberos authentication, enter your user name in the following format: *user@REALM* or *domain\user*.
Hive host realm	(Kerberos only) Enter the Kerberos realm of the HiveServer2 host. **Note:** If necessary, contact your IT department to obtain this information. Before you can successfully connect to Hive using Kerberos authentication, the Toad client computer must have a Kerberos Key Distribution Center (KDC) address entry for the Hive host realm. To define the KDC entry, use the following procedure. Open a Windows Command Prompt as Administrator and enter the following command: `ksetup /addkdc <REALM> <KDC name>` You only need to run this command once for the given realm. To confirm the setting, enter the following command: `ksetup`. This command should return both the name of the Hive host realm and the KDC name you specified.
Hive host FQDN	(Kerberos only) Enter the fully-qualified domain name (FQDN) of the HiveServer2 host. **Note:** If necessary, contact your IT department to obtain this information.
Service name	(Kerberos only) Enter the service name of the Hive server. The default is *hive*.

Note: In NoSQL and Business Intelligence connections, Toad automatically saves the password in the connections.xml file as obfuscated text, as well as in Toad. To add additional password security, use Toad's Master Password feature.

4. Click **Connect** to connect immediately while saving the connection information. Optionally, click **Save** to save the connection without connecting.
5. Upon creating an initial connection, Toad automatically maps the data source objects. This process runs in the background, and until it is finished, you may experience a delay when attempting to access these objects.

Tips:

- Connections are stored in the **connections.xml** file and can be found by clicking the *Application Data Directory* link in **Help | About**.
- You can specify a proxy server to use for Business Intelligence and NoSQL connections at **Tools | Options | Database | Data Services**.

Create MySQL or MariaDB Connections

You can create a new connection, or connect to an existing connection from the Create New Connection window. See "Troubleshoot MySQL Issues" on page 78 for more information about troubleshooting MySQL connection issues.

To create a MySQL or MariaDB connection

1. Click on the toolbar (ALT+F+N).
2. Select either *MySQL* or *MariaDB* from the **Group** list box.
3. Review the following for additional information:

Login Tab	Description
Connection type	Select the protocol to use when connecting.
Host	Enter the name of the host computer where the database is installed.
Password	Enter the password to use when connecting. **Tip:** After connecting, you can set a master password to further secure your connection in **Tools | Options| Environment | Security**.
Connection timeout	Enter the number of seconds to wait when connecting before the application times out. The default is 15 seconds.
SSL	If you selected SSL as the connection type, review the following for additional information: • Private key—browse to the location of the SSL key file to use when connecting. • CA cert—browse to the location of the trusted certificate authority to use when connecting. • Cert—browse to the location of the SSL certificate file to use when connecting.
Compress	Select this checkbox to compress the value of any strings and return binary values.
Use MySQL libraries	Select this checkbox to use an embedded MySQL library instead of the MySQL .NET provider. **Note:** If you select this option, you must specify **libMySQL.dll** in the path.
Category	Select or create a category if you want to color code Editor tabs for a specific connection. This can help differentiate between development and production databases. You can also set an option to color code the Object Explorer pane and object editor windows (Create, Alter, Drop, etc.).
Advanced Tab	**Description**
ODBC driver	Select an ODBC driver to use when executing cross-connection queries using this connection. Tip: You can specify the ODBC driver to use for all connections for this database provider in **Tools | Options | Database | MySQL**.

4. Click **Connect** to save the connection and immediately connect to the database.

   or

   Click **Save** to save the connection without connecting to the database.

Tip: Connections are stored in the connections.xml file and can be found by clicking the *Application Data Directory* link in **Help | About**.

Click here to view a video about creating connections in Toad Data Studio

Create ODBC Connections

Toad Data Studio allows you to create a connection to a database that supports an ODBC 3.0 or later driver. ODBC connectivity provides basic querying capability, but may not be as full-featured as a native connection in Toad. For a list of databases tested with the ODBC provider, see the Release Notes.

This form of connectivity allows connections to databases such as Netezza, IBM iSeries, Ingres, and Vertica.

Note: Distinct values are not available in Code Completion for ODBC connections.

DSN Architecture (Bitness) Must Match Toad

To create a successful ODBC connection, the architecture (bitness) of the driver in the specified DSN must match the architecture (bitness) of Toad.

To create an ODBC connection

1. Click on the toolbar (ALT+F+N+O).
2. Select *ODBC Generic* from the **Group** list box.
3. **Use data source name**—Select to display data source names. Clear this check box if you want to display the driver names.
4. To create a data source to use in this connection, click in the **Data Source Name** field. Then click **Add**.
5. Select an ODBC driver from the list, and click **Finish**.

   Note: If creating an Oracle ODBC connection, select the ODBC driver provided by Oracle. The Microsoft ODBC for Oracle driver has less functionality than the driver provided by Oracle.
6. Specify the configuration properties required for the database in the Windows configuration dialog.

   Notes:

   - If you have an Oracle database with Unicode data, make sure to select *Force SQL_WCHAR Support* on the Workarounds tab of the windows Oracle ODBC Configuration dialog. If you do not, you will not be able to see the data.
   - If creating a MySQL ODBC connection to use in a cross-connection query, you must specify a database in the Windows MySQL ODBC Configuration dialog.
7. Specify the connection properties in the Create New Connection dialog. Review the following for additional information:

General	
Data source name	Select the driver or data source name you added in the previous steps.
User	Enter the user name to use when connecting.
Password	Enter the password to use when connecting. **Tip:** After connecting, you can set a master password to further secure your connection in **Tools	Options| Environment	Security**.

Database	Select a database or schema. Click to create a temporary connection and display available databases/schemas in the drop-down list.
Information	
Data Source Name	Displays the selected driver or data source name.
Driver	Displays the ODBC driver associated with the data source.
Advanced	
Default Table Column	Specify default options to use when creating a new table. **Column type**—Select the default data type to use when creating a table. **Column length**—For the selected column type, enter a default column length to use.
Advanced Options	**Block Cursor Size**—Specify the number of rows to return in a single fetch of data from the result set. **Disable multi-threading**—Multi-threading is disabled by default. Enable multi-threading only if supported by the driver. Multi-threading can improve performance, but can also result in unpredictable behavior if not supported by the driver. Default: *Selected*
Category	(Optional) Select an existing category or create a new one.

8. Click **Connect** to connect immediately while saving the connection information. Optionally, click **Save** to save the connection without connecting.

Tip: Connections are stored in the connections.xml file and can be found by clicking the *Application Data Directory* link in **Help | About**.

Tips for Working with ODBC Connections

Tip	Description
Filter DSN by bitness	To filter Data Source Names displayed in the New Connection dialog by the bitness of Toad, go to **Tools	Options	Database	ODBC**.
Cache object metadata	To cache object metadata for ODBC connections and retain it between sessions, go to **Tools	Options	Database	ODBC** and select to enable disk caching. Cached object metadata is retained until manually refreshed.
Refresh object metadata	To refresh object metadata for all ODBC connections, in the Object Explorer right-click an object and select **Refresh All**. Right-click an object and select **Refresh Schema** to refresh only objects in that schema.

ODBC Features

Feature	Description
Bypass schema/instance selection in SQL Editor	For ODBC connections, in the SQL Editor you can bypass selecting a schema/instance and specify this information through the script instead. This is useful if your script executes SQL against multiple schemas. To use this method, select **I will set schema/instance in the script** from the schema/instance drop-down list in the SQL Editor window. Then specify the schema/instance through your script.

Feature	Description
	Note: When this option is selected, some code completion features, object actions, and object information tool tips are unavailable for this SQL Editor window.

Click here to view a video about creating connections in Toad Data Studio

Configure Oracle LDAP Support

You can create Oracle Lightweight Directory Access Protocol (LDAP) connections when your Oracle client is configured for LDAP. Once the client is configured, Toad retrieves names from your LDAP server and displays them in the **Database Name** list in the Create New Connection window.

Notes:

- To connect using LDAP, you must install an Oracle client on the computer.
- Toad supports a 9i, 10g, and 11 client and the Oracle Instant client. If you want to use the instant client, you must configure it to work with Toad. See "Configure the Oracle Instant Client" on page 49 for more information.

To configure the Oracle client for LDAP

1. Obtain the LDAP.ORA file from your database administrator.
2. Copy the LDAP.ORA file to the folder where the SQLNET.ORA file for your Oracle client is located. The default folder is: ORACLE_HOME\network\admin
3. Open the SQLNET.ORA file and enter "(LDAP)" as the value for the NAMES.DIRECTORY_PATH as follows:

   NAMES.DIRECTORY_PATH= (LDAP)

   Note: If you are using multiple naming methods, add the (LDAP) value to existing parameter values. For example, if you are using both the TNSNAMES and LDAP naming methods, add LDAP to TNSNAMES as follows:

   NAMES.DIRECTORY_PATH= (TNSNAMES, LDAP)
4. Save the SQLNET.ORA file.
5. Launch Toad and select **File | New | Connection**.
6. Create an LDAP connection following the procedure in Create Oracle Connections. In step 3, select a database on the LDAP server from the **Database Name** list. Toad retrieves the list of LDAP names from the LDAP server once per Toad session. To refresh the list, click .

Create Oracle Connections

You can create a new connection, or connect to an existing connection from the Create New Connection window.

Click here to view a video about creating connections in Toad Data Studio

Tip: You can configure Toad Data Studio to accept connection information from Toad for Oracle.

Client Connection or Direct Connection

You can connect to your database using a native Oracle database provider in Toad using one of the following methods:

Connection Method	Advantages	Disadvantages
Client connection Client tab—Uses an installed Oracle Client or Oracle Instant Client to establish a connection to the database from Toad.	Supports LDAP	Requires an Oracle client **Note:** Toad supports Oracle clients and Oracle Instant clients using version 9i or later.
Direct connection Direct Connect tab—Uses TCP/IP to connect directly to the database.	Does not require an installed Oracle Client Recommended for connecting to Oracle 8i databases	This method only supports common data types. Some advanced Oracle object types cannot be retrieved when connecting using this method. This method does not support LDAP. (To connect using LDAP, use the Client Connection method instead.) This method cannot be used in a cross-connection query.

Note: Quest recommends using one of the methods described in this table to connect to Oracle rather than an ODBC driver. Because ODBC connectivity is generic, it is not full-featured and may not be as robust as the fully exploited native database provider.

Configure the Oracle Instant Client

The Oracle Instant client installs only those files needed to connect to your database using OCI. Because this client does not write to the registry (no ORACLE_HOMES) or add to the environmental path, you must manually set environment variables so the client can be used with Toad.

To configure the Oracle Instant Client to work with Toad

1. Save the Oracle Instant Client files in any location on the computer where Toad is installed.
2. On your Windows desktop, right-click My Computer and select **Properties**.
3. Select the Advanced tab and click **Environment Variables**.
4. Click **New** under System Variables and complete the following:

Variable name	Variable Value
PATH	<*Path where Instant Client is installed*>;%PATH% For Example: C:\Program Files\OracleInstantClient;%PATH%
TNS_ADMIN	<*Path where tnsnames.ora file is installed*>

5. To use the Oracle Instant Client connection in a cross-connection query, you must also install an Oracle ODBC driver. (While the Oracle Client *full* install includes an ODBC driver, the Oracle Instant Client does not.)

Note: You cannot use an Oracle Direct Connection in a cross-connection query.

Create an Oracle Connection

To create an Oracle connection

1. Click on the toolbar (ALT+F+N).
2. Select *Oracle* from the **Group** list box.
3. Review the following for additional information:

Login Tab	Description
Database name	Select the alias to use when connecting. This list displays aliases from LDAP, as well as any local tnsnames.ora file. When you initially open the connection dialog, Toad retrieves the list of LDAP names from the LDAP server. Toad caches this list and displays it upon subsequent requests, within one Toad session. To refresh the list, click . **Note:** If you do not select a database, Toad uses the ORACLE_SID for the selected home. If an ORACLE_SID value does not exist and you do not specify a database, you cannot connect.
Password	Enter the password to use when connecting. **Tip:** After connecting, you can set a master password to further secure your connection in **Tools | Options| Environment | Security**.
Connect as	Select whether to connect as either SYSDBA or SYSOPER if you have the appropriate permissions. Otherwise, use the default.
Schema	Select a schema if you frequently work in a different schema than the one associated with your user name.
Explain plan table	(Optional) Specify the location of an existing explain plan table to use instead of Toad automatically creating one for you when you execute a statement. This is useful if you do not have necessary permissions to create explain plan tables or want to use an existing table.
Category	Select or create a category if you want to color code Editor tabs for a specific connection. This can help differentiate between development and production databases. You can also set an option to color code the Object Explorer pane and object editor windows (Create, Alter, Drop, etc.).
Save password	Select this check box if you plan to use this connection in a scheduled Automation script. **Note:** This option is disabled if Toad was installed with **Prohibit saving passwords** selected.
Oracle Client Tab	**Description**
Current home	Modify the Oracle home to use, if needed.
TNSNames Editor	Click this button to edit your local TNSNames file. **Tip:** You can press CTRL+F to open the Find/Replace window to locate entries in the TNS Names Editor. Pressing F3 locates the next entry that matches your criteria.
SQLNET Editor	Click this button to edit SQLNET.ORA parameters. Before editing this file, you should create a backup copy. See *SQLNET.ORA Profile Parameters* in the Oracle documentation for more information.

Direct Tab	Description
SID	Enter the ORACLE_SID value for the database. This value is specified in the registry under each installed home.
Advanced Tab	**Description**
ODBC driver	If an Oracle Client is installed, the default is the Oracle ODBC driver. If an Oracle Client is **not** installed, the default is the Microsoft Access ODBC driver. **Tip:** You can specify the ODBC driver to use for all connections for this database provider in **Tools | Options | Database | Oracle**.

4. Click **Connect** to connect immediately while saving the connection information. Optionally, click **Save** to save the connection without connecting.

Note: Go to **Tools | Options | Database | Oracle** to specify default options to use in Oracle connections.

Tip: Connections are stored in the connections.xml file and can be found by clicking the *Application Data Directory* link in **Help | About**.

Create Oracle Business Intelligence Connections

Toad allows you to connect to the presentation layer of an Oracle Business Intelligence Enterprise Edition (OBIEE) data source.

To create an Oracle Business Intelligence Enterprise connection

1. Click on the Connections toolbar (ALT+F+N).
2. Select *Oracle BI Enterprise* from the **Group** list.
3. Enter the connection information in the Create New Connection dialog. Review the following for additional information:

URL	Enter the URL to the Oracle Business Intelligence Enterprise data source to which you want to connect. **Note:** You must include the port number in the URL as in the following examples: format—http://<server path>:<port>/analytics/saw.dll example—http://server01.mycompany.com:80/analytics/saw.dll
Password	Enter the password to use when connecting. **Tip:** After connecting, you can set a master password to further secure your connection in **Tools | Options| Environment | Security**.
Row Limit	Select a row limit to enforce for query results. *default = 500,000*
Category	(Optional) Select an existing category or create a new one.

Note: In NoSQL and Business Intelligence connections, Toad automatically saves the password in the connections.xml file as obfuscated text, as well as in Toad. To add additional password security, use Toad's Master Password feature.

4. Click **Connect** to connect immediately while saving the connection information. Optionally, click **Save** to save the connection without connecting.

5. Upon creating an initial connection, Toad automatically maps the data source objects. This process runs in the background, and until it is finished, you may experience a delay when attempting to access these objects.

Important Information about Oracle BI Connections

You must incorporate the port into the OBIEE database connection URL in the following format:

http://<server name>:<port>/analytics/saw.dll

An example URL is http://server01.mycompany.com:80/analytics/saw.dll

Tips:

- Connections are stored in the **connections.xml** file and can be found by clicking the *Application Data Directory* link in **Help | About**.
- You can specify a proxy server to use for Business Intelligence and NoSQL connections at **Tools | Options | Database | Data Services**.

Create Oracle Fusion Connections

You can create a new connection to Oracle Fusion Cloud using either your credentials (username and password) or Single Sign-On (SSO), depending on your organization's authentication setup.

Authentication and connection method

Method	Description
Username/Password	Use your Oracle Fusion cloud URL, username, and password directly in the connection dialog.
Single Sign-On (SSO)	Enables authentication via your organization's identity provider. Clicking "Connect" will redirect to the Oracle Cloud login portal.

***Note**:Only one method should be used per connection. If SSO is selected, username and password are ignored*

To create an Oracle Fusion connection

1. Click on the Connections toolbar (ALT+F+N).
2. Select *Oracle Fusion* from the **Group** list.
3. Enter the connection information in the Create New Connection dialog.

   Review the following for additional information:

URL	Enter the full Oracle Fusion cloud URL **Note:** Cloud URL e.g., https://fa-<env>.oraclecloud.com
Username	Your Oracle Fusion user name (if not using SSO)
Password	Your Oracle Fusion password (if not using SSO)
Single Sign-On (SSO)	Enables authentication via your organization's identity provider. Clicking "Connect" will redirect to the Oracle Cloud login portal.

Note: In NoSQL and Business Intelligence connections, Toad automatically saves the password in the connections.xml file as obfuscated text, as well as in Toad. To add additional password security, use Toad's Master Password feature.

4. Click **Connect** to connect immediately while saving the connection information. Optionally, click **Save** to save the connection without connecting.
5. Upon creating an initial connection, Toad automatically maps the data source objects. This process runs in the background, and until it is finished, you may experience a delay when attempting to access these objects.

Special Notes for Oracle Fusion Connections

- Toad does not require Oracle client software for Oracle Fusion connections
- Session timeout and token expiration for Oracle Fusion connections depend on your organization's identity provider and Oracle Cloud policies
- Oracle Fusion is a read-only data source in Toad Data Studio

Create PostgreSQL ODBC Connections

Toad Data Studio allows you to easily create a connection to a PostgreSQL database using ODBC connectivity. You can connect with or without using a data source name (DSN).

Download and install the necessary ODBC driver to use for your PostgreSQL connection prior to creating the new connection in Toad.

Prerequisites

To create a successful ODBC connection, the architecture (bitness) of the driver in the specified DSN must match the architecture (bitness) of Toad.

To create a PostgreSQL ODBC connection

1. Click on the toolbar (ALT+F+N+O).
2. Select *PostgreSQL* from the **Group** list box.
3. **Use data source name**
    - To create the connection using a data source, select this option to display data source names.
    - To create the connection without using a data source, clear this check box to display driver names. Select a driver and enter a server name, port number, and a database. Or select a driver and enter a **ConnectionString**.
4. To create a data source to use in this connection, click in the **Data Source Name** field. Then click **Add**.
    a. Select a PostgreSQL ODBC driver from the list, and click **Finish**.
    b. Specify the configuration properties required for the database in the Windows driver setup dialog. Save your settings when finished.
5. Specify the remaining connection properties in the Create New Connection dialog. Review the following for additional information:

    Note: Specify a user that has been granted SELECT privilege in pg_catalog schema.

General	
Data source name	Select the driver or data source name you added in the previous steps.
User	Enter the user name to use when connecting.

Password	Enter the password to use when connecting. **Tip:** After connecting, you can set a master password to further secure your connection in **Tools | Options| Environment | Security**.
Database	Select a database. Click to create a temporary connection and display available databases in the drop-down list.
Schema	Select a schema. Click to create a temporary connection and display available schemas in the drop-down list.
Information	
Data Source Name	Displays the selected driver or data source name.
Driver	Displays the ODBC driver associated with the data source.
Advanced	
Default Table Column	Specify default options to use when creating a new table. **Column type**—Select the default data type to use when creating a table. **Column length**—For the selected column type, enter a default column length to use.
Advanced Options	**Block Cursor Size**—Specify the number of rows to return in a single fetch of data from the result set. **Disable multi-threading**—Multi-threading is disabled by default. Enable multi-threading only if supported by the driver. Multi-threading can improve performance, but can also result in unpredictable behavior if not supported by the driver. Default: *Selected*
Category	(Optional) Select an existing category or create a new one.

6. Click **Connect** to connect immediately while saving the connection information. Optionally, click **Save** to save the connection without connecting.

Tip: Connections are stored in the connections.xml file and can be found by clicking the *Application Data Directory* link in **Help | About**.

Considerations and Limitations for PostgreSQL ODBC Connections

Consideration/Limitation	Details
User must have pg_catalog privilege	To use a PostgreSQL ODBC connection in Toad, the connecting user must have the SELECT privilege in the pg_catalog schema. This privilege is required as it enables viewing PostgreSQL objects in the Object Explorer, as well as other features and functionality in Toad. If you attempt to connect using a user account that does not have the SELECT privilege in the pg_catalog schema, you will encounter the following error message: "User's privileges are insufficient to connect using Toad."

Tips for Working with ODBC Connections

Tip	Description
Filter DSN by bitness	To filter Data Source Names displayed in the New Connection dialog by the bitness of Toad, go to **Tools | Options | Database | ODBC**.
Cache object metadata	To cache object metadata for ODBC connections and retain it between sessions, go to **Tools | Options | Database | ODBC** and select to enable disk caching. Cached object metadata is retained until manually refreshed.
Refresh object metadata	To refresh object metadata for all ODBC connections, in the Object Explorer right-click an object and select **Refresh All**. Right-click an object and select **Refresh Schema** to refresh only objects in that schema.

ODBC Features

Feature	Description
Bypass schema/instance selection in SQL Editor	For ODBC connections, in the SQL Editor you can bypass selecting a schema/instance and specify this information through the script instead. This is useful if your script executes SQL against multiple schemas. To use this method, select **I will set schema/instance in the script** from the schema/instance drop-down list in the SQL Editor window. Then specify the schema/instance through your script. **Note:** When this option is selected, some code completion features, object actions, and object information tool tips are unavailable for this SQL Editor window.

Click here to view a video about creating connections in Toad Data Studio

Create Salesforce Connections

Toad allows you to connect directly to Salesforce.com, one of the business intelligence data sources supported by Toad. Toad supports authentication using either a Salesforce security token or single sign-on with your corporate credentials.

To create a Salesforce connection

1. Click on the Connections toolbar (ALT+F+N).
2. Select *Salesforce* from the **Group** list. The Create New Connection dialog opens.

3. To create a Salesforce connection using your Salesforce email login, select the **Credentials** tab.
    a. Enter the connection information. Review the following for additional information:

URL	Enter the Salesforce.com URL to which you want to connect. **Note:** An example is https://login.salesforce.com.
Username	Enter your email login. **Note:** You must have a Salesforce email login to create this type of connection to Salesforce.com from Toad.
Password	Enter the password to use when connecting. **Tip:** After connecting, you can set a master password to further secure your connection in **Tools | Options| Environment | Security**.
Security token	Enter your Security Token provided by Salesforce. **Note:** You must have a Salesforce security token to create this type of Salesforce.com connection from Toad. See "Important Notes about Salesforce Connections" on page 57 for more information.
Category	(Optional) Select an existing category or create a new one.

    b. After entering the connection information, click **Connect** to connect immediately while saving the connection information. Optionally, click **Save** to save the connection without connecting.
4. To create a Salesforce connection using your corporate credentials (single sign-on), select the **Corporate Credentials** tab.
    a. Enter your company's custom Salesforce URL. An example is https://*company*.my.salesforce.com or http://salesforce.*servername*.

    Note: If you authenticate and request login to Salesforce through your company's server (e.g., http://salesforce.*servername*), you may need to contact your IT department to obtain the full URL to enter in this step.

    b. If the Salesforce log-in page displays, enter your corporate credentials (user name and password) and click **Log in to Salesforce**.

    Note: The Salesforce log-in page does not display when authenticating through your company's server.

    c. The Salesforce consent page displays. Click **Allow** to allow Toad access to your Salesforce data.
5. Upon creating an initial connection, Toad automatically maps the data source objects. This process runs in the background, and until it is finished, you may experience a delay when attempting to access these objects.

Note: In NoSQL and Business Intelligence connections, Toad automatically saves the password in the connections.xml file as obfuscated text, as well as in Toad. To add additional password security, use Toad's Master Password feature.

Manual Single Sign-On

Use the manual single sign on method when you want to create a Salesforce connection using your corporate credentials but you are having problems accessing Salesforce from Toad, for example, if Toad does not have access to the Internet.

Create a Salesforce.com connection - manual single sign-on

1. In the Create New Connection dialog, select the **Manual Single Sign On** tab.
2. Log-in to your Salesforce.com account using your browser. After you log-in, copy the full URL from the browser's address bar and paste it into the text box under **Step 1** in the Manual Single Sign On tab.

3. A URL appears in the text box under **Step 2**. Copy this URL and then paste it into the address bar in your browser.
4. The Salesforce consent page displays. Click **Allow**.
5. A page displays containing the authorization code. Copy the code and paste it into the text box under **Step 3**. Then click **Connect**.

Reauthorizing a Connection (If Using Corporate Credentials)

If you encounter an error message when attempting to connect to Salesforce using your corporate credentials connection, Toad's authorization (access) to Salesforce may be lost. Use the following procedure to re-establish authorization for the connection.

To Reauthorize

1. In the Navigation Manager, disconnect from the connection. You must disconnect before you can re-authorize.
2. After disconnecting, right-click the connection and select **Properties**.
3. In the Connection Properties dialog, click **Reauthorize** in the Corporate Credentials tab.
4. If the Salesforce log-in page displays, re-enter your corporate credentials.

   Note: The Salesforce log-in page does not display when authenticating through your company's server.

Important Notes about Salesforce Connections

- If you connect to Salesforce using a proxy, you must define the proxy server in Toad.
- A Security Token is required to log on to Salesforce.com from Toad, using your Salesforce email login.
- For information about how to generate a new security token, see the Salesforce documentation at https://login.salesforce.com/help/doc/en/user_security_token.htm.
- You may need to have your IP address included in your organization's list of trusted IP addresses. For more information, see the Salesforce documentation at http://www.salesforce.com/us/developer/docs/api/Content/sforce_api_concepts_security.htm.

Tips:

- Connections are stored in the **connections.xml** file and can be found by clicking the *Application Data Directory* link in **Help | About**.
- You can specify a proxy server to use for Business Intelligence and NoSQL connections at **Tools | Options | Database | Data Services**.

Create Snowflake Connections

Toad allows you to create a native Snowflake connection, which provides you with a full-featured Object Explorer, Query Builder and SQL Editor.

Note: You must have a Snowflake ODBC driver 2.24.2 (or later) installed before a native connection is created.

To install the Snowflake ODBC Driver

Download and install the ODBC Driver from the Snowflake Web site.

To create a new connection

1. Click on the **Connections** toolbar (ALT+F+N).
2. Select ***Snowflake*** from the **Group** list box.
3. Enter the connection information in the **Create New Connection** dialog. Review the following for additional information:
4. Review the following for additional information:

General Tab	Description
Host	Enter the name of the server hosting the database to which you want to connect.
Authentication	There are four types of authentication that you can use to connect to Snowflake in Toad. The required Login fields will change according to the type of authentication you select. All the authenticators are located in a dropdown list: • Snowflake – User account authentication • SSO – Single Sign-On via external browser • OAuth – Token-based authentication • MFA - Multi-Factor Authentication • Key pair - JSON Web Token (JWT)
User	Enter the username for your Snowflake account
Password	Enter the password for your Snowflake account
Token	Enter your authentication token (Only visible when connecting via OAuth)
Private key path	Enter your Private key (Only visible when connecting via Key pair)
Passphrase	Passphrase is required only if the keys are encrypted (Only visible when connecting via Key pair)
Port	The default port number for Snowflake is 443
Optional	**A connection can be made without providing this information**
Role	Enter the user role that you would like to connect to
Warehouse	Enter the name of the Warehouse you would like to connect to
Database	Enter the name of the Database(s) you would like to connect to
Schema	Enter the name of the Schema(s) you would like to connect to

4. Click **Connect** to save the connection and immediately connect to the database.

   or

   Click **Save** to save the connection without connecting to the database.

Authentication Notes

When using SSO or MFA, there is a way to maintain continuous and secure connectivity without needing to enter login credentials for each connection attempt to Snowflake (as well as to prevent additional browser loading whenever a new module is started in Toad Data Studio). To achieve this, check whether the correct parameters have been set in your account by executing the query below in your Snowflake cloud interface:

SHOW PARAMETERS IN ACCOUNT;

The output that will secure login credentials caching will have these values:

For SSO

allow_id_token = true;

For MFA

allow_client_mfa_caching = true;

If these values are set to false, then the following queries need to be executed:

For SSO:

ALTER ACCOUNT

SET allow_id_token = true;

For MFA:

ALTER ACCOUNT

SET allow_client_mfa_caching = true;

Note: If a Role or Warehouse isn't chosen, the default settings from the Snowflake User account will be applied (it is considered best practice that a user sets a default Role and a default Warehouse in their Snowflake user account).

Tip: It is strongly advised to use only the Snowflake user account authentication when creating Automation scripts to avoid unnecessary workflow interruptions.

Limitations of Snowflake Native Connections

- Connecting to Snowflake through Programmatic SSO (Okta only) is not currently supported.
- Semi-structured data types can be used for storing and analyzing purposes in Snowflake connections, but are not supported in the Data Compare/Sync Wizard because Toad will not be able to generate valid sync scripts unless they are modified before execution
- At the moment, there is no support for Code Snippets in Snowflake connections

Tip: Connections are stored in the connections.xml file and can be found by clicking the *Application Data Directory* link in **Help | About**.

Create SQL Server and SQL Azure Connections

You can create a new connection, or connect to an existing connection from the Create New Connection window. See "Troubleshoot SQL Server® Issues" on page 80 for more information about troubleshooting connection issues.

Click here to view a video about creating connections in Toad Data Studio

Note: For SQL Azure connections:

- To be able to utilize majority of Toad functionality please grant VIEW DEFINITION on the SQL Azure databases you want to work with.
- You can login to Windows Azure Platform by selecting **Tools | Cloud Computing | SQL Azure Portal** and providing your credentials.
- Make sure that no Azure firewall rule restricts your IP address from having access to Azure server. See "Create and Alter Azure Firewall Rules" in the online help for more information.

To create a new connection

1. Click on the toolbar (ALT+F+N).
2. Select *Microsoft SQL Server* or *Microsoft SQL Azure* from the **Group** list box.
3. Review the following for additional information:

Login Tab	**Description**
Server name	Enter the name of the server to use when connecting. Click to display any servers running SQL Server that are currently active on the network. **Notes:** • For SQL Azure connections, enter InstanceName.database.windows.net in this field. • For named instances, enter the *MachineName\InstanceName* in this field.
Authentication	Select the type of authentication to use for this connection. • You can connect to an Azure SQL database with Active Directory authentication (either Active Directory Integrated Authentication or Active Directory Password Authentication). Client configuration is required. See https://learn.microsoft.com/en-us/sql/connect/ado-net/sql/azure-active-directory-authentication?view=sql-server-ver16 • You can also connect to an Azure SQL database with Active Directory Universal with MFA. **Note:** You cannot create a SQL Azure connection using Windows Authentication.
Password	Enter the password to use when connecting. **Tip:** After connecting, you can set a master password to further secure your connection in **Tools | Options| Environment | Security**.
Application ID	Enter the application ID located in App registrations in Azure Active Directory. (This is a mandatory field when connecting to Microsoft SQL Azure via MFA.)
Redirect URI	Enter the appropriate redirect URI.(This is an optional field when connecting to Microsoft SQL Auzre via MFA which can be left empty unless you have specific requirements for configuring the Redirect URI.)
Category	Select or create a category if you want to color code Editor tabs for a specific connection. This can help differentiate between development and production databases. You can also set an option to color code the Object Explorer pane and object editor windows (Create, Alter, Drop, etc.).
Encrypt connection	Select this option to enable encryption for the current connection provided that the certificate has been already installed on the server.
Advanced Tab	**Description**
Network protocol	Select one of the following:

	• Shared Memory • TCP/IP • Named Pipes **Note:** When establishing Named Pipes connection "Poll service status in connection list" option should be cleared.
Parameter Name/Value	You can add parameters to the connection. Toad includes the **Application Name** parameter with value *Toad Data Studio* by default.
OBDC driver	Select an ODBC driver to use for this connection when creating cross-connection queries. **Tip:** You can specify the ODBC driver to use for all connections for this database provider in **Tools | Options | Database | SQL Server**.

4. Click **Connect** to save the connection and immediately connect to the database.

   or

   Click **Save** to save the connection without connecting to the database.

Tip: Connections are stored in the connections.xml file and can be found by clicking the *Application Data Directory* link in **Help | About**.

To import connections (including Central Management Server connections)

1. Click .
2. Specify the location where the connections currently reside.

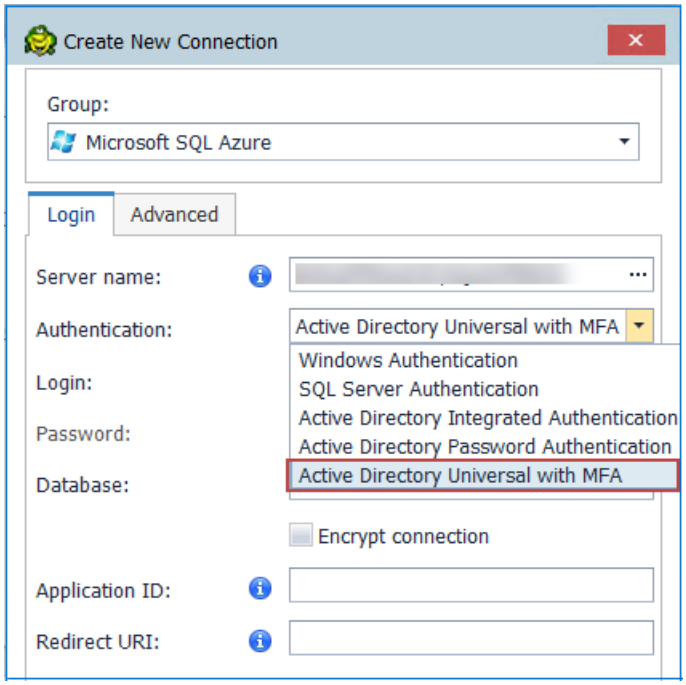
   Note: Review the following for additional information on CMS connections:

   - To import CMS connections, select a server from the list where the CMS is registered. The connection to this SQL Server instance should be created beforehand.
   - CMS is available beginning with Microsoft SQL Server 2008.
   - User should have an appropriate login (Windows Authentication and grant to connect to selected server are required) created on the server to which he connects via CMS.
3. Select the connections to be imported.

Microsoft SQL Azure Connections with Multi-factor Authentication

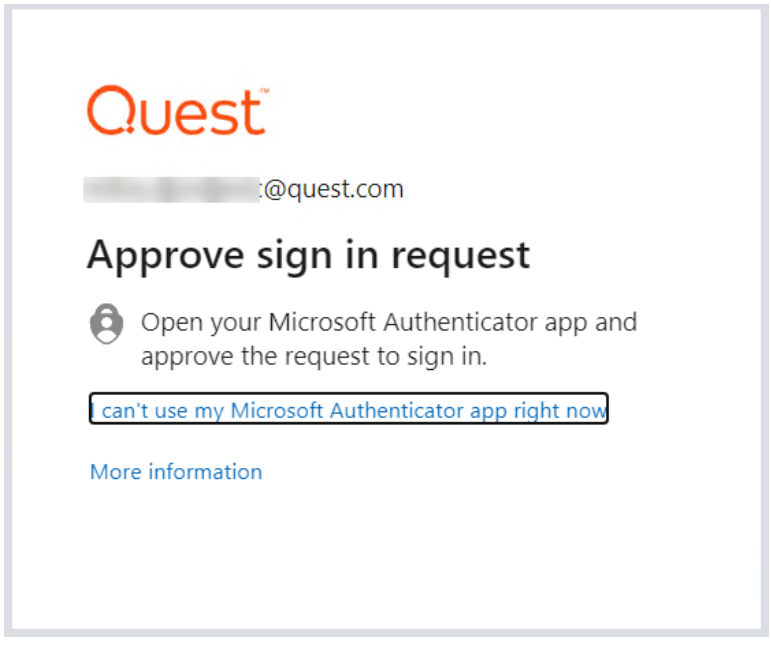
To create this type of connection to **Microsoft SQL Azure**, **Active Directory Universal with MFA** needs to be selected from the Authentication field dropdown.

The next step is to enter a user name which has been configured for multi-factor authentication and put in the appropriate App ID. After filling out the required information, click on **Connect**.



The step that follows will enable you to select a user from the list or add another one by clicking on **Use another account.**

After that, you will be prompted to enter your credentials and depending on the type of authentication that the account has been configured with, you will undergo an additional authentication step, such as the one in the image below.



After completing the final authentication step, a successful connection to **Microsoft SQL Azure** will be made.

Create SQL Server Analysis Services Connections

Through Toad you can create a connection to a Microsoft SQL Server Analysis Services (SSAS) data source. An SSAS connection in Toad allows you to access the multi-dimensional cubes from the data source.

Configure HTTP Access

Before connecting to SQL Server Analysis Services from Toad Data Studio, you must configure the IIS Web server (to be used for connecting) for HTTP access to SSAS. See the following instructions from Microsoft: http://msdn.microsoft.com/en-us/library/gg492140(v=sql.105).aspx.

Connect to SQL Server Analysis Services

To create a SQL Server Analysis Services connection

1. Click on the Connections toolbar (ALT+F+N).
2. Select *Microsoft SQL Server Analysis Services (SSAS)* from the **Group** list.
3. Enter the connection information in the Create New Connection dialog. Review the following for additional information:

URI	Enter the URL for the Analysis Services data source to which you want to connect. **Note:** Toad connects to Analysis Services via http access. The URL should have the following format: format—http://<server path>/msmdpump.dll example—http://server01/olap/msmdpump.dll
Database	Enter the name of the Analysis Services database to which you want to connect.
Username	Enter the user name for the user account to be used in this connection.
Password	Enter the password for the user account specified in *Username*.
Category	(Optional) Select an existing category or create a new one.

Note: In NoSQL and Business Intelligence connections, Toad automatically saves the password in the connections.xml file as obfuscated text, as well as in Toad. To add additional password security, use Toad's Master Password feature.

4. Click **Connect** to connect immediately and also save the connection information. Optionally, you can click **Save** to save the connection without connecting.
5. Upon creating an initial connection, Toad automatically maps the data source objects. This process runs in the background, and until it is finished, you may experience a delay when attempting to access these objects.

Tips:

- Connections are stored in the **connections.xml** file and can be found by clicking the *Application Data Directory* link in **Help | About**.
- You can specify a proxy server to use for Business Intelligence and NoSQL connections at **Tools | Options | Database | Data Services**.

Create SAP Connections

You can create a new SAP IQ, SAP SQL Anywhere, or SAP ASE connection, or connect to an existing connection from the Create New Connection window. See "Troubleshoot SAP Issues" on page 81 for more information about troubleshooting connection issues.

Click here to view a video about creating connections in Toad Data Studio

Note: This topic focuses on information that may be unfamiliar to you. It does not include all step and field descriptions.

To create an SAP connection

1. Click on the toolbar (ALT+F+N).
2. Select *SAP ASE*, *SAP IQ*, or *SAP SQL Anywhere* from the **Group** list.
3. Enter the login information. Review the following for additional information:

Login Tab	**Description**
Host	Enter the host name for the connection. **Note:** This field is only available when you select an SAP IQ or SAP SQL Anywhere connection.
Port	Enter the number of port.
Password	Enter the password to use when connecting. **Tip:** After connecting, you can set a master password to further secure your connection in **Tools | Options| Environment | Security**.
CharSet	Enter the client character set such as UTF-8 in this field if it differs from the default character set. This helps you avoid connection issues. **Notes:** • This field is not case sensitive. • This field is only available when you select an SAP ASE connection.
Category	Select or create a category if you want to color code Editor tabs for a specific connection. This can help differentiate between development and production databases. You can also set an option to color code the Object Explorer pane and object editor windows (Create, Alter, Drop, etc.).
Options Tab	**Description**
Language	(SAP ASE only) Set language for your connection to SAP ASE to override your **Region | Format** settings in **Control Panel**. If the field is left empty the default language is used. *Default is us_english.*
Kerberos	Select whether you want to use Kerberos when connecting. *Default is **No**.*
Encryption	Select **None** if you do not want to use encryption during connecting. Select **TLS** to use the highest available encryption when connecting. Indicate the path to your certificate file if you want to use TLS encryption.
Advanced Tab	**Description**
ODBC driver	Select an ODBC driver to use for this connection when creating cross-connection queries.

	Tip: You can specify the ODBC driver to use for all connections for this database provider in **Tools | Options | Database | Oracle**.

4. Click **Connect** to save the connection and immediately connect to the database.

   or

   Click **Save** to save the connection without connecting to the database.

Tip: Connections are stored in the connections.xml file and can be found by clicking the *Application Data Directory* link in **Help | About**.

Create SAP HANA Connection

To create an SAP HANA connection

1. Click on the toolbar (ALT+F+N).
2. Select **SAP HANA** from the **Group** list box.
3. Specify the connection properties in the Create New Connection dialog. Review the following for additional information:

General tab	Description
Host	Enter IP address (or the master host name). **Note**: Enter the master host name. Host names for distributed systems are determined automatically. If the specified host is not available, the connection is established through one of the other hosts.
Instance Number	Enter a two-digit instance number. **Note**: The communication port number is defined by: n <instance> xy, where n is either 3 or 5, <instance> is a two-digit number representing the instance number of the SAP HANA appliance, and xy represents a consecutive number. **Toad users only enter the instance number.**
Type of Authentication	Select: **Authentication by the current operating system user** - connect using your operating system authentication **Authentication by the database user** - connect using your database user authentication
User	Enter the user name to use when connecting.
Password	Enter the password to use when connecting. **Tip:** After connecting, you can set a master password to further secure your connection in **Tools | Options| Environment | Security**.

Mode	Select the database mode. SAP HANA supports numerous isolated databases in a single HANA system. Although each database in a multiple-container system is isolated, cross-queries can be performed and all databases share the same installation, resources, and administration. **Single-container** — Select for single-container systems. These can be converted to multiple-container systems. **Multiple-container** — Select for multiple-container systems. These systems always have one system database, which is used for administration, and any number of tenant databases. Select whether you want to connect to the **System** or **Tenant database**. Users connect to a specific tenant database within the system using its database name.
Current Schema	Select a database schema. Click ... to create a temporary connection and display available schemas in the drop-down list.
Category	Select or create a category if you want to color code Editor tabs for a specific connection. This can help differentiate between development and production databases. You can also set an option to color code the Object Explorer pane and object editor windows (Create, Alter, Drop, etc.).
Options tab	**Description**
Isolation Level	(Optional) Select the default isolation level for this connection.
Lifetime	(Optional) Specify a maximum value for connection lifetime by entering the length of time in seconds. The default value is *0*, which specifies no maximum.

4. Click **Connect** to connect immediately while saving the connection information. Optionally, click **Save** to save the connection without connecting.

Note: An SAP HANA ODBC driver is installed along with Toad Data Studio and is required if using a HANA connection in a cross-connection query.

Tip: Connections are stored in the connections.xml file and can be found by clicking the *Application Data Directory* link in **Help | About**.

Create Teradata Connections

Toad allows you to create a full-featured, native Teradata connection. This type of connection provides complete Query Builder, Query Editor, and Database Explorer functionality.

Notes:

- You must have a Teradata .NET Data Provider installed before you can create a Teradata connection.
- To use a Teradata connection in a cross-connection query, you must have a Teradata ODBC driver installed.

To install the Teradata data provider

» Download and install the **Teradata .NET Data Provider** from the Teradata Web site. Use the version supported by your database version.

To create a Teradata connection

1. Click on the Connections toolbar (ALT+F+N).
2. Select *Teradata* from the **Group** list.

3. Enter the connection information in the Create New Connection dialog. Review the following for additional information:

Login	
Server name	Enter the name of the server hosting the database to which you want to connect.
Use Single Sign On	Select if the user is using a single sign-on authentication system.
Password	Enter the password to use when connecting. **Tip:** After connecting, you can set a master password to further secure your connection in **Tools | Options| Environment | Security**.
Session mode	Displays the session mode, which is always *Teradata* in a Toad Teradata connection.
Default database	(Optional) Enter a default Teradata database for the connection.
Category	(Optional) Select an existing category or create a new one.
Advanced	
Mechanism	(Optional) Select an authentication mechanism from the list.
Parameter	(Optional) Enter the parameters required by the selected authentication mechanism. See your system administrator for these values.
Account string	(Optional) Enter a new account string.
Character set	Select a character set. **Note:** When querying or viewing data in a column defined with GRAPHIC or CHARACTER SET GRAPHIC data type, you must specify a Character set of UTF-16 for the session.
Use data encryption	Select if using data encryption.
Response buffer size	Specify a Response Buffer Size (in bytes). This allows you to govern the number of rows returned in a single response. To increase the number of rows per response, increase the response buffer size. This strategy might help to improve performance with larger data sets. The default value in Toad is set to the maximum, 1040000 bytes.

4. Click **Connect** to connect immediately while saving the connection information. Optionally, click **Save** to save the connection without connecting.

Tip: Connections are stored in the connections.xml file and can be found by clicking the *Application Data Directory* link in **Help | About**.

To install a Teradata ODBC driver

» Download and install a Teradata ODBC driver from the Teradata Web site. For a list of supported Teradata ODBC drivers, please see the *Release Notes* for your version of Toad Data Studio.

Notes:

- Toad does not support the Teradata multi-statement request.
- You can specify which Teradata Data Directory views to use, X views or Non-X views, in **Tools | Options | Database | Teradata**.

3

Troubleshoot Connections

Troubleshoot Access Issues

Review the following solutions to help troubleshoot Access issues pertaining to missing functionality and object information and other problems in Toad.

See "Create Access Connections" on page 24 for more information about Access connections.

Missing Functionality and Object Information

Issue	Cause/Solution
Some queries display in the View tab of the Object Explorer, but do not display in the Query tab.	The Access ODBC driver handles saved queries in the following manner: • If the stored query does not contain parameters, it is treated as a view and displays in the View tab. • If the stored query contains parameters, it is treated as a stored procedure and displays in the Query tab.
Primary key information is unavailable.	The Microsoft Access ODBC driver does not return primary key information for databases. However, in some cases, Toad can obtain this information through additional methods.

Other Issues

Issue	Cause/Solution
A delay occurs between writing a value to a database via one connection and seeing the updated value via another connection.	This delay is the default when you are writing and reading data between two different Jet connections. The delay occurs even if the two connections reside in the same client process. **Solution:** Use a single connection when updating data.

How to Connect to Apache Hive Using Kerberos Authentication

Toad allows you to connect to a Hive data warehouse system. Apache Hive is one of the NoSQL data sources supported by Toad. Toad allows you to connect to Hive using Kerberos authentication.

To create a Hive connection

1. Click on the Connections toolbar (ALT+F+N).
2. Select *Apache Hive* from the **Group** list.
3. Enter the connection information in **Create New Connection**. Select HiveServer2 in **Server Type**
4. Select Kerberos in **Authentication | Authentication**
5. Review the following for additional information:

Username	Enter the user name to use for this connection in the following format: *user@REALM* or *domain\user*
Hive host realm	Enter the Kerberos realm of the HiveServer2 host.
Hive host FQDN	Enter the fully-qualified domain name (FQDN) of the HiveServer2 host. **Note**: If necessary, contact your IT department to obtain this information.
Service name	Enter the service name of the Hive server. The default is *hive*.

To set User name

Toad Data Studio needs to use full name in Kerberos Key Distribution Center (KDC) in the following format:

`Userid/host@realm`

Note: Please contact your Kerberos/IT administrator for more info on your userid and host name

Before you can successfully connect to Hive using Kerberos authentication, the Toad client computer must have a Kerberos Key Distribution Center (KDC) address entry for the Hive host realm. To define the KDC entry, use the following procedure.

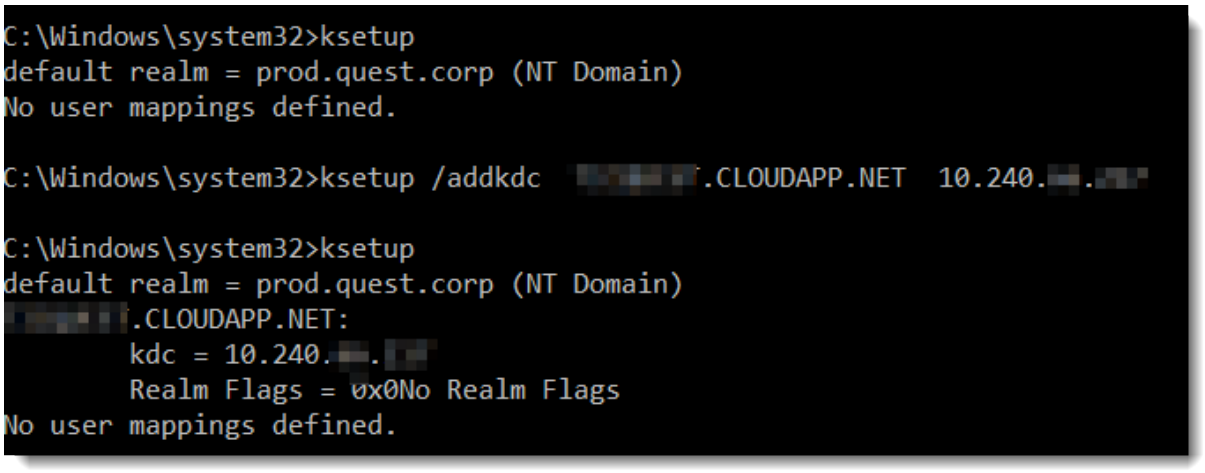
You only need to run this command once for the given realm. To confirm the setting, enter the following command: `ksetup`. This command should return both the name of the Hive host realm and the KDC name you specified.

Open a Windows Command Prompt as Administrator and enter the following command:

```
ksetup /addkdc <REALM> <KDC name>
```

Where <*REALM*> is the name of the Hive host realm and <*KDC name*> is the DNS name of the computer running the KDC service for the given realm. ksetup is the Kerberos setup tool in Windows.

Run the command `ksetup` again to confirm the realm has been added.

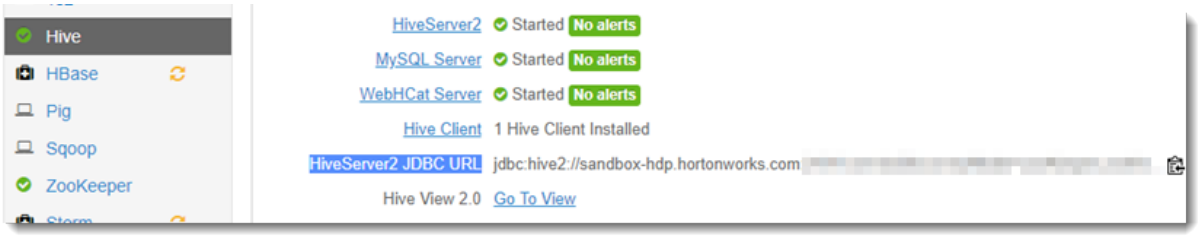


To check the port and hive setting in Hive server

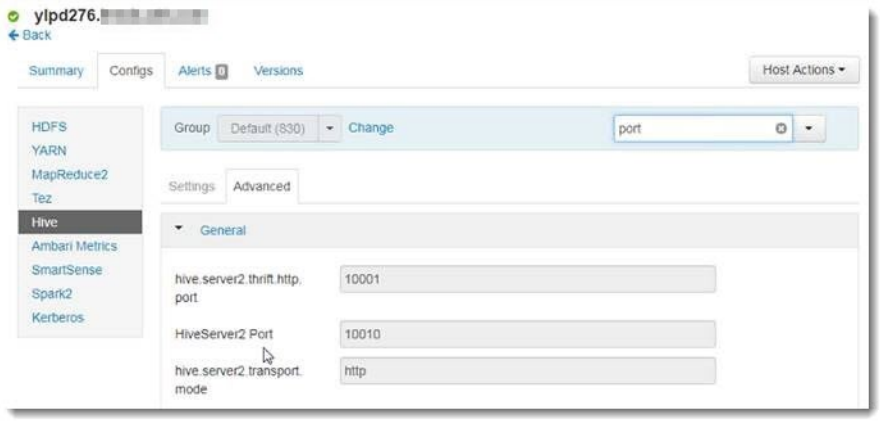
These settings may differ in each Hadoop release package:

Hortonworks

Toad Data Studio does not use JDBC for connecting to Hive, so do not use HiveServer2 JDBC URL here. Do not use the URL and port information below in Toad Data Studio HIVE connection.



Enter “port” in the filter search box to know the hive transport mode and port configuration in this Hive server.



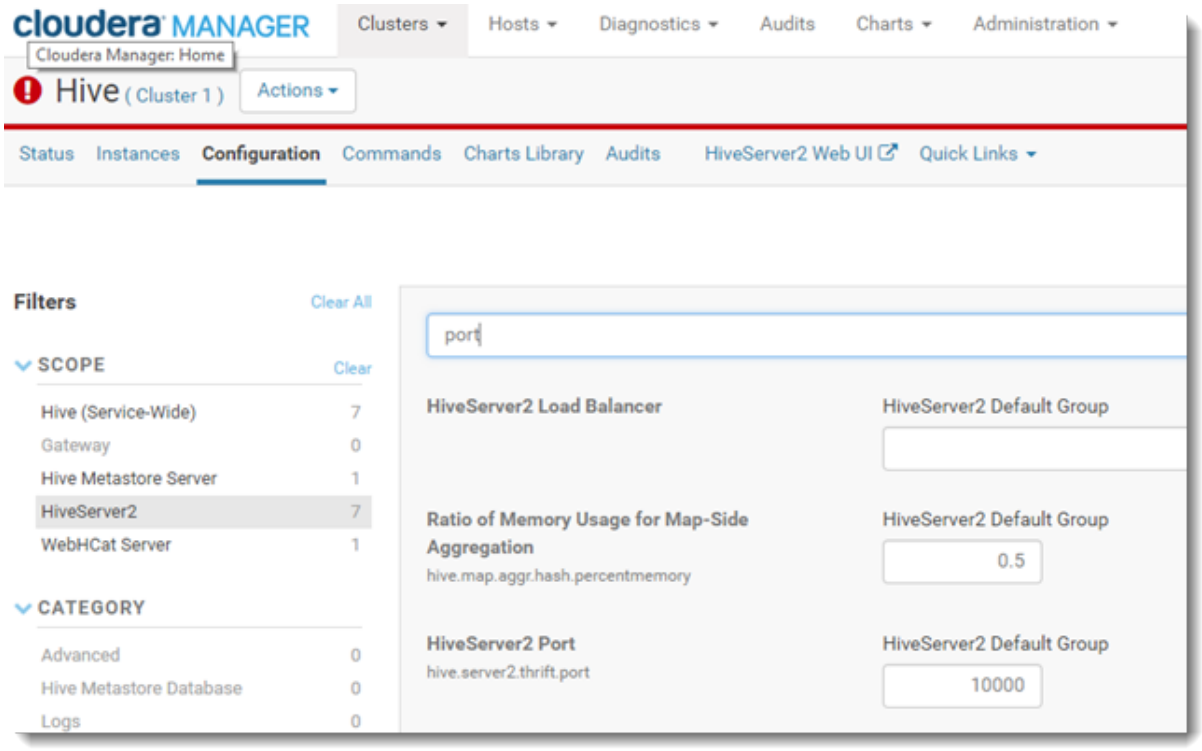
If hive.server2.transport == HTTP, then check “http mode” in Toad, and port number in Toad should use ‘hive.server2.thrift.http.port’.

If hive.server2.transport == binary, then uncheck “http mode” in Toad, and port number in Toad Data Studio should use “HiveServer2 Port”.

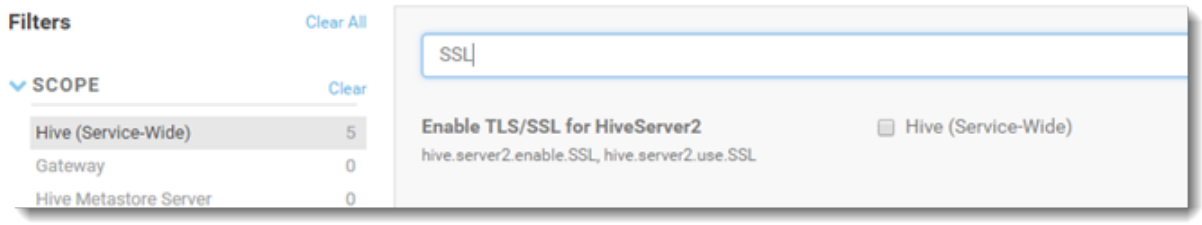
Note: HDP does not use SSL when Kerberos authentication is enabled.

Cloudera

Enter “Port” in the search box to check the HiveServer2 Port in CDH because CDH does not support using the Thrift HTTP mode to connect to HiveServer2.



Enter “SSL” in the search box to check if the SSL has been enabled. By default SSL is not used.



Troubleshoot Excel® Issues

Review the following to help troubleshoot and solve issues involving Excel files.

See "Create Excel Connections" on page 37 for more information about Excel connections.

Excel Connections

Issue	Cause/Solution
Tables are limited to 256 columns and 65536 rows.	This is a known limitation with Excel worksheets.
Column names longer than 64 characters are truncated and the remaining characters display as null.	This is a known limitation with Excel worksheets.
Columns that include text values or special characters as	When you connect to Excel, the driver automatically scans the first eight rows in a column and applies the data type used in a majority of those rows to all

Issue	Cause/Solution
part of a numeric value, as well as entries with straight numeric values, result in one of the value sets displaying as null.	rows in the column. Any rows that do not meet the majority data type display as null values. **Solution 1:** Reformat worksheet column and values as text. 1. Open the worksheet in Excel. 2. Format the column that contains mixed data types as *Text*. 3. You can now connect to this spreadsheet from Toad without any null values displayed. **Solution 2:** Create an ODBC connection. You can force the ODBC driver to read all rows as *Text* to avoid null values; however, this can result in issues if you attempt to insert data. 1. Open the Create New Connection window and select *ODBC* from the **Group** list. 2. Complete the fields as described in Create ODBC Connections. 3. Enter "IMEX=1", in quotations, in the **ExtraParameters** field. 4. Click **Connect**.
Column names that contain an exclamation point (!) are not supported.	The exclamation point character has a special meaning in Excel. If a column name contains an exclamation point, it is internally converted to a dollar sign ($) character.
Tables cannot be altered.	Tables cannot be altered when the Excel connection is Read-Only. **Solution:** Deselect **Read-Only Connection** in the Connection Properties dialog.
The Primary Keys and Foreign Keys tabs are blank in the Database Explorer.	Excel is a spreadsheet, and does not support primary and foreign keys so these tabs are always blank.
Indexes cannot be created or dropped.	The Excel ODBC driver does not support this functionality.
Unable to query Excel files without named ranges (regions).	The worksheet you are querying does not have named ranges (regions) defined. **Solution:** You can query the worksheet from the Editor by entering a dollar sign ($) followed by a cell range to limit the results similar to the following statement: `Select * from (MyWorksheet$A1:C10)` You can also query the entire worksheet by entering a dollar sign ($) after the worksheet name. However, this may also return the worksheet's empty rows and columns.
Attempting to connect to or create a new Excel connection results in **No user tables could be found** message.	The Excel file does not have named ranges (regions) defined. If you click **OK** to close the message, the new connection is created, but no user tables display in Object Explorer. (System tables are displayed, if you selected to show these.) **Solution 1:** In the Excel file, create named ranges. **Solution 2:** Ask Toad to automatically create named ranges. 1. Disconnect from the file. 2. In Navigation Manager, right-click the file and select **Properties | Advanced**. 3. Select **Automatically create ranges**. The next time you connect, Toad automatically creates named ranges,

Issue	Cause/Solution
	which are then displayed as tables. See "Create Excel Connections" on page 37 for more information.
Unable to query data using an empty string or null value.	The underlying data format cannot differentiate between an empty string and null data, so a query with a search condition that contains an empty string does not match any empty strings in the table. This occurs because the empty string is treated as a null value, and a null value never matches anything, not even another null value.
Unable to update or delete rows in a table.	The Excel ODBC driver does not support this functionality. While it is possible to update values, DELETE statements do not remove a row from a table. Basically, you can only insert data in a table.
Attempting to insert data results in **Cannot expand named range** error.	This error occurs if you have more than one named range (region) in the same worksheet, and the named ranges are not separated by blank rows. **Solution 1:** You must add blank rows between named ranges. Add as many blank rows as you have new records to insert. **Solution 2:** Include only one named range in each worksheet.

Working with Excel Files

Issue	Cause/Solution
Microsoft Excel worksheet row and column limits	When exporting to Excel, be aware that Excel worksheets have limits for maximum number of rows and columns supported. See Microsoft Excel specifications and limits for more information.

Opening Excel Files in Toad Document Window

Issue	Cause/Solution
Excel menus do not display when you open Excel files in a Toad document window.	The Toad document window cannot display all Excel menus. **Solution:** Right-click the Excel toolbar and add the equivalent toolbar for the missing menu or functionality.
When two or more instances of Excel are open in Toad document windows, toolbars are active for only one instance.	Toad document windows support one Excel instance at a time. Opening more than one Excel file disables the Excel toolbars for the additional files. **Solution:** Open only one Excel file at a time.

Troubleshoot DB2 LUW Issues

Review the following solutions to help troubleshoot DB2 LUW issues pertaining to Toad installation and database connections.

Installation Issues

The following table describes issues related to installing Toad for DB2.

Issue	Cause/Solution
System.IO.FileNotFoundException - File or assembly name DB2AdminWrapper, or one of its dependencies was not found	You are not a member of the DB2ADMIN or DB2USERS group. To install Toad, you must be a member of either group. **Solution:** Ensure that you have been added to one of these groups.
Error: "Could not load file or assembly 'IBM.Data.DB2.9.1.0, Version=9.1.0.2, Culture=neutral, PublicKeyToken=7c307b91aa13d208' or one of its dependencies. The system cannot find the file specified."	You installed a commercial version of Toad for DB2 after uninstalling the freeware version. **Solution:** You must remove run time information for the freeware version of Toad from the .NET system.config file. ***To remove run time information*** 1. Exit Toad. 2. Navigate to the following .NET framework directory: C:\WINDOWS\Microsoft.NET\ Framework\v2.0.50727\ CONFIG 3. Create a backup copy of the system.config file. 4. Open the system.config file in Notepad. 5. Locate the <runtime> tag delete everything between the runtime tags (including <runtime> and </runtime>). 6. Save the file. 7. Restart Toad.

Connection Issues

Issue	Cause/Solution
ERROR [08001] [IBM] SQL1336N The remote host was not found. SQLSTATE=08001	You are attempting to connect to a database version that is not supported in Toad. **Solution:** Review the list of supported databases in the Release Notes or Installation Guide.
ERROR [58031] [IBM] SQL1031N The database directory cannot be found on the indicated file system. SQLSTATE=58031	Catalog entries have not been imported or defined for the connection. **Solution:** See "Configure DB2 Client Connections" on page 28 for more information to determine the best method for cataloging a database.
"The type initializer for 'IBM.Data.DB2.DB2Connection' threw an exception." or "SUCCESS - unable to allocate an environment handle."	A settings file might be corrupt. **Solution:** Rename your local settings directory so a new one can be recreated. ***To rename your local setting directory*** 1. Exit Toad. 2. Navigate to the following settings directory:

Issue	Cause/Solution
	• Windows Server 2008, Windows 7—C:\Users*username*\AppData\ Roaming\Quest Software\ 3. Rename the Toad for DB2 *version#* folder to "Toad for DB2 OLD". 4. Restart Toad and try to connect. **Notes:** • Make sure you can view hidden folders in Windows Explorer. • To navigate to this directory quickly, click the **Application Data Directory** link in the About dialog (**Help | About**).

Other Issues

Issue	Cause/Solution
Unable to capture Container Information in DB2 for LUW Multi-Partition Databases	Certain Toad functions require that the DFT_MON_BUFPOOL database manager configuration parameter be set to ON to capture information on containers used in DB2 for LUW databases. Additionally, to capture container information across all partitions in a multi-partition database, the snapshot monitor requires that all database partitions be active. To activate all database partitions (and keep them active), execute the DB2 command ACTIVATE DATABASE *real_database_name* on the server before connecting Toad to the database. See your IBM DB2 for Linux, Unix, and Windows documentation for more information about this command.

Troubleshoot DB2 z/OS Issues

Review the following solutions to help troubleshoot DB2 z/OS issues in Toad.

Installation Issues

Issue	Cause/Solution
Error: "Could not load file or assembly 'IBM.Data.DB2.9.1.0, Version=9.1.0.2, Culture=neutral, PublicKeyToken=7c307b91aa13d208' or one of its dependencies. The system cannot find the file specified."	You installed a commercial version of Toad for DB2 after uninstalling the freeware version. **Solution:** You must remove run time information for the freeware version of Toad from the .NET system.config file. ***To remove run time information*** 1. Exit Toad. 2. Navigate to the following .NET framework directory: C:\WINDOWS\Microsoft.NET\ Framework\v2.0.50727\ CONFIG

Issue	Cause/Solution
	3. Create a backup copy of the system.config file. 4. Open the system.config file in Notepad. 5. Locate the <runtime> tag delete everything between the runtime tags (including <runtime> and </runtime>). 6. Save the file. 7. Restart Toad.

Connection Issues

Issue	Cause/Solution
ERROR [08001] [IBM] SQL1336N The remote host was not found. SQLSTATE=08001	You are attempting to connect to a database version that is not supported in Toad. **Solution:** Review the list of supported databases in the Release Notes or Installation Guide.
ERROR [58031] [IBM] SQL1031N The database directory cannot be found on the indicated file system. SQLSTATE=58031	You do not have any catalog entries defined for the connection. **Solution:** See "Configure DB2 Client Connections" on page 28 for more information to determine the best method for cataloging a database.
ERROR [42501] [IBM][DB2] SQL0551N "UserName" does not have the privilege to perform operation "SELECT" on object "SYSIBM.SYSSTMT". SQLSTATE=42501	You do not have SYSADM privileges for the DB2 for z/OS subsystem. **Solution:** Ensure that you are granted SELECT permissions on the DB2 catalog tables.
ERROR [] [IBM] SQL1460N The environment variable "SOCKS_NS" required for SOCKS server name resolution is not defined or not valid.	When using the Time-Sharing Option (TSO) to connect, the user ID, port number, or IP address entered may be incorrect. **Solution:** Ensure that you use the following for TSO connections: • DB2 user ID for the DB2 subsystem • Port number that DB2 listens on, for remote connections, via the DB2 DDF address space • IP address for the z/OS subsystem
ERROR [56038] [IBM][DB2] SQL0969N There is no message text corresponding to SQL error "-4700" in the message file on this workstation.' when connecting to compatibility mode database. -or- After connecting, some objects do not display properly or some functionality does not work as designed.	In general, Toad does not support a z/OS subsystem running in Compatibility mode. **Solution:** If possible, switch the subsystem's operating mode to Full Function mode. If this is not possible, Toad now provides a message when you connect to subsystem, informing you of that the subsystem is running in compatibility mode and that some features might not be available.

Missing Functionality or Object Information

Issue	Cause/Solution
Unable to browse databases in DB2 for z/OS 8 or later.	The DB2 installation job DSNTISG defines a set of DB2 procedures that the ODBC driver uses. The installation assigns these procedures (namely, those beginning with SYSIBM.SQL*) to a specific Work Load Manager (WLM) environment, which currently might not exist or be defined properly. **Solution:** Be sure that you have correctly set up and enabled the WLM environment to which the procedure definitions point.
Cannot edit data in compatibility mode.	In compatibility mode, the ODBC driver does not return enough information for the CommandBuilder to correctly generate update or insert statements. **Solution:** No solution exists. However, when you connect to a subsystem running in compatibility mode, Toad now provides a message, informing you of this condition and warning you that some features might not be available.

Other Issues

Issue	Cause/Solution
Poor performance when browsing DB2 for z/OS objects in Toad. Indexes are populated slowly.	User-defined indexes on specific system catalog tables can improve performance when you are browsing DB2 for z/OS objects in Toad. The following link contains the DDL for indexes that can optimize Toad performance on your DB2 for z/OS subsystem. Keep in mind that the creation of these indexes is a recommendation only. The indexes can have different results in different environments, depending on the number of DB2 objects and the amount of data involved. To create these indexes, edit and run the DDL contained in the following file: ToadDB2zOSIndexes.txt Additionally, if the schema drop-down lists in the Object Migration wizard populate slowly, consider creating an index on the SCHEMA and CREATOR columns in the catalog table for each object type. Here is a list of some of the object-type tables: SYSIBM.SYSSYNONYMS SYSIBM.SYSSEQUENCES SYSIBM.SYSROUTINES SYSIBM.SYSTABLES SYSIBM.SYSDATATYPES SYSIBM.SYSINDEXES SYSIBM.SYSTRIGGERS SYSIBM.INDEXES
Encountering the S378 Abend when running IBM DB2 z/10 subsystem in Conversion mode with older versions of Toad.	This issue appears because the Toad z/OS Component tries to reference the QUEST.QC200ZPARM function. **Solution:** DROP the QUEST.QC200ZPARM function from your DB2 z/OS 10 subsystem. This will eliminate the possibility of the function being called into the WLM environment procedure and causing the S378

Issue	Cause/Solution
	abend. We do not recommend that you to just STOP the QUEST.QC200ZPARM function on the mainframe side, without actually dropping it, because that may case Toad or the batch process (QCEXEC – remote job execution) to hang. Dropping the QUEST.QC200ZPARM function is recommended.

Troubleshoot Informix Issues

Review the following solutions to help troubleshoot Informix issues in Toad.

Issue	Cause/Solution
Unable to view all available databases.	The InformixODBC driver does not return information about every available database.

Troubleshoot MySQL Issues

Review the following solutions to help troubleshoot MySQL connection issues pertaining to database connections and missing functionality or object information in Toad.

Connection Issues

Issue	Cause/Solution
"InvalidCastException" error when connecting to MYSQL 4.1.14-nt database	This is a known issue in MySQL. **Solution:** Review the known issue and download a patch from: http://bugs.mysql.com/bug.php?id=12771
"System.IO.DirectoryNot FoundException"error occurs each time you attempt to connect after installing Toad into a directory other than the default directory.	**Solution:** 1. Exit Toad. 2. Locate the **MySQL.xml** file in the C:\Documents and Settings*username*\Local Settings\ Application Data\Quest Software\ Toad for MySQL*version*\ ModuleSettings 3. Rename or delete the **MySQL.xml** file. 4. Restart Toad.

Missing Functionality or Object Information

Issue	Cause/Solution
Views tab in Object Explorer is unavailable when connecting to MySQL using the ODBC driver	You are attempting to connect using the 3.51 ODBC driver. This driver is hard-coded to reply that the database does not support views because it needs to connect to MySQL databases prior to version 5. **Solution:**

Issue	Cause/Solution
	Use the native MySQL provider included in Toad.
Using a MySQL ODBC connection in a cross-connection query results in an error	Attempting to execute a cross-connection query using a MySQL ODBC connection (not a native connection) results in the following error: "The table <table name> can not be mapped." **Solution:** To use a MySQL ODBC connection in a cross-connection query, you must specify a database for the connection. ***To specify a database for an existing MySQL ODBC connection*** 1. In the Connection/Navigation Manager, right-click the existing MySQL ODBC connection and select Properties. 2. Click beside the **Data source name** drop-down list. The ODBC Data Source Administrator dialog opens. 3. On the User DSN tab, select (highlight) the connection's MySQL ODBC driver and then click **Configure**. The MySQL ODBC Configuration dialog displays. 4. Select a database from the **Database** list. **Notes:** • Specifying a database using the Connection Properties **Database** field does not result in a solution. You must follow the procedure above. • You can repeat this procedure at any time to specify a different database.

Troubleshoot Oracle Issues

Review the following solutions to help troubleshoot Oracle connection issues pertaining to database connections and missing functionality and object information in Toad.

Connection Issues

Review the following to help troubleshoot Oracle:

Issue	Cause/Solution
Attempting to connect when Oracle Instant Client is installed results in a System.NullReferenceException error	**Solution:** In order to connect using the Oracle Instant Client, the directory for the Instant Client must be included in the environmental path, or you must copy the client files for the instance to the root install directory of Toad Data Studio. You can also connect to the database without using an Oracle client or TNSNames file by selecting the Direct tab in the Create New Connection window.
An error occurs when attempting to connect to Oracle Rdb using an ODBC driver	Toad does not support Oracle Rdb at this time.

Issue	Cause/Solution
Attempting to connect to Oracle 18c results in the error ORA-28040: No matching authentication protocol	SQLNET.ALLOWED_LOGON_VERSION has been deprecated. Upgrade your Oracle client or set the parameter value to *12c*.

Missing Functionality and Object Information

Issue	Cause/Solution
Some schemas are not available from the Schema drop-down list in the Object Explorer.	The Oracle ODBC driver cannot display schemas that do not have any tables.
Unable to view table data on the Data tab; SQLFetch generates an access violation.	The Oracle ODBC driver is accessing unallocated memory. **Solution:** Update the Oracle ODBC driver: • For 9i drivers, update to 9.2.0.7.0 or later. • For 10g drivers, update to 10.1.0.3.0 or later.

Troubleshoot SQL Server® Issues

Connection Issues

Review the following solutions to help troubleshoot SQL Server connection issues in Toad.

Issue	Cause/Solution
Cannot specify a port number when connecting	Currently, Toad does not have a separate field for specifying a port number. **Solution:** You can connect if you know the port number for the instance by entering the following in the **Server name** field on the New Connection window: ServerName,Port or IPAddress,Port For example: 10.1.29.129,1234 (where 1234 is the port number of the instance)
Cannot connect to a remote instance in SQL Server 2005	Remote connections may not be enabled in SQL Server 2005. Also, named instances are configured to use dynamic ports and select an available port once the SQL Server Service starts. If you are connecting to a named instance through a firewall, configure the Database Engine to listen on a specific port, so that the appropriate port is opened in the firewall. **Note:** Remote connections are disabled by default in the Express and Developer editions of SQL Server 2005. **Solution:** To enable remote connections, see "How to configure SQL Server 2005 to allow remote connections" at: http://support.microsoft.com/kb/914277

Issue	Cause/Solution
"Path is not of a legal form" error message when connecting or "Could not find a part of the path C:\Program Files\Quest Software \Toad Data Studio\Template\Scripts\ InitialSqlServer.Sql" error message when connecting	You attempted to migrate settings from a previous install of Toad to the current install, but the settings file (InitialSqlServer.Sql) for the previous install was either removed, moved, or corrupt. You may also receive this error if you installed Toad and migrated settings from a previous version, and later uninstalled the previous version. **Solution:** You must specify a valid location for the InitialSqlServer.Sql file in Toad. ***To specify a valid location*** 1. Open the SQL Server options page under **Tools | Options | Database | SQL Server**. 2. Specify the location for the new install's InitialSqlServer.Sql file in the **Run Script on new connection** field. By default, this file is located in the following directory: C:\Program Files\Quest Software\Toad Data Studio *version* \Templates\Scripts **Note:** Clicking ⋯ may result in a "Path not found error". If you receive this error, manually enter the location in the field.
Cannot establish Named Pipes connection	If you are trying to connect to the server using Named Pipes, "Poll service status in connection list" option should be cleared. **Solution:** 1. Open the options page under **Tools | Options | Database | General**. 2. Clear **Poll service status in connection list** checkbox.
Cannot access some functionality when working with Azure connection.	To utilize majority of Toad functionality VIEW DEFINITION grant is required for those databases you want to work with.

Troubleshoot SAP Issues

Review the following solutions to help troubleshoot SAP issues pertaining to the following in Toad:

Connection Issues

Issue	Cause/Solution
Unable to connect to the database. The following message displays: "The ODBCMDA procedures have not been installed on this database..."	Stored procedures that the ODBC driver requires currently do not exist on the server. **Solution:** Install the required procedures.

Missing Functionality or Object Information

Issue	Cause/Solution
Unable to view or export data for objects with non-standard names.	The ASE ODBC driver has issues handling non-standard names for objects.

Issue	Cause/Solution
	Solution: When setting up an ASE connection in Toad, select **Use quoted identifiers** on the Connection tab in the Adaptive Server Enterprise window to enable the use of quotations in identifiers.
Unable to view linked tables.	Linked tables store DSN connection information. **Solution:** Set up the DSN connection information exactly the same on all machines that access the database.

Other Issues

Issue	Cause/Solution
DBMS name showing as *SQL Server*.	Older versions of the ASE ODBC driver return *SQL Server* as the DBMS name. **Solution:** Upgrade to the latest version of the ODBC driver, which correctly returns *Adaptive Server Enterprise* as the DBMS name.

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