

**Toad® for SAP® Solutions 4.1.x**  
**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® for SAP® Solutions.

### Client Requirements

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

Requirement	Details
<b>Platform</b>	2 GHz processor (recommended minimum)
<b>Memory</b>	4 GB of RAM minimum, 16 GB recommended <b>Note:</b> The memory required may vary based on the following: <ul style="list-style-type: none"> <li>• Applications that are running on your system when using Toad</li> <li>• Size and complexity of the database</li> <li>• Amount of database activity</li> <li>• Number of concurrent users accessing the database</li> </ul>
<b>Hard Disk Space</b>	800 MB to install Toad 212 MB to run Toad <b>Note:</b> The disk space required may vary based on the edition of Toad selected for installation.
<b>Operating System</b>	Windows Server® 2008 R2 SP2 Windows Server® 2012 Windows Server® 2012 R2 Windows Server® 2016 Windows Server® 2019 Windows® 7 SP1 (32-bit or 64-bit) Windows® 8.1 (32-bit or 64-bit) Windows® 10, version 1809
<b>.NET Framework</b>	Microsoft® .NET Framework 4.7.1
<b>Additional Requirements</b>	<b>Web Browser</b> Microsoft® Internet Explorer® 11 or later <b>Screen</b> Toad supports screen resolutions up to 3200 x 1800 and display DPI settings up to 150%

# Server Requirements

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

Requirement	Details
<b>Database Server</b>	SAP ASE 15.5, 15.7, 16 SP03 SAP IQ 15, 16 SAP SQL Anywhere 10, 11, 12, 16 SAP HANA SPS 08, SPS 09, SPS 10, SPS 11, SPS 12, SAP HANA 2.0, SAP HANA 2.0 SPS 02 <b>Note:</b> 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.

# Virtualization Support

Requirement	Details
<b>Application Virtualization</b>	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 <a href="#">Remote Desktop Services programming guidelines</a> ) and can be deployed and operated in virtualization environments such as Citrix XenApp, Microsoft App-V, and VirtualBox. See " <a href="#">Install Toad on Citrix® Systems</a> " on page 11 for more information.
<b>Server Virtualization</b>	Toad has been tested with the following: <ul style="list-style-type: none"><li>• Oracle VM 3.1 running on Red Hat Enterprise Linux 64-bit with Oracle 11gR2</li><li>• Oracle VM 2.2 running on Windows 2008 32-bit with Oracle 11gR2</li></ul>

# User Requirements

## User Requirements to Install Toad

Only Windows Administrators and Power Users can install Toad.

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:

- 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

**Note:** Your Toad for SAP Solutions license key determines the edition and will enable Toad for SAP Solutions functionality accordingly. In many cases, if functionality is disabled within Toad for SAP Solutions, you may not have an appropriate license to use it. When Toad is running, you can see which components are licensed by selecting **Help | About**.

## To install Toad

1. Run the Installer.
2. Accept the License Agreement.
3. Select the products you want to install and click **Install**.

**Note:** Check **Prohibit saving passwords** during the installation to prohibit users from saving their passwords in Toad.

# Specify Application Data Directory Location

Toad for SAP Solutions 4.1 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 for SAP Solutions (Computer\HKEY\_CURRENT\_USER\Software\Quest Software\Toad for SAP Solutions\4.1), 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	C:\Users\username\	C:\Users\username\
Windows 7	AppData\Roaming\Quest	AppData\Local\Quest Software\ Toad
Windows 8	Software\Toad for SAP Solutions 4.1	for SAP Solutions 4.1
Windows 10		

## 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.

Use a stand-alone installer to perform a silent install. Obtain your installer files at <https://support.quest.com/>.

## 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

## 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. (This file can be downloaded from the Quest Software Web site or can be found on the Toad installation CD-ROM.)
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"	<p>(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.</p> <p>You can add additional parameters to the logging option to indicate what type of information to log.</p> <ul style="list-style-type: none"> <li>• <b>/Lx</b>—Adds extra debugging information to the log (used in previous example)</li> </ul>

Option	Description
	<ul style="list-style-type: none"> <li>• <b>/Lv</b>—Specifies verbose output</li> <li>• <b>/L*</b>—Log all information, except that specified by x and v</li> <li>• <b>/L*v</b>—Log all information, including v (verbose output)</li> <li>• <b>/L*x</b>—Log all information, including x (extra debugging info)</li> <li>• <b>/L*vx</b>—Log all information, including that specified by v and x</li> </ul> <p>See the log section at <a href="http://msdn2.microsoft.com/en-us/library/aa367988.aspx">http://msdn2.microsoft.com/en-us/library/aa367988.aspx</a> for more information about additional logging parameters.</p>
License="full_path"	Specify the full path to a license file, e.g. License="C:\ProgramData\Quest Software\Toad for SAP Solutions". Toad for SAP Solutions 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 for SAP Solutions 4.1.
ALLUSERS	<p>(Optional) Specify one of the following:</p> <ul style="list-style-type: none"> <li>• For a per-machine installation, specify 1. This value allows any user to use the Toad shortcut on the desktop after the installation completes.</li> <li>• 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.</li> </ul> <p><b>Note:</b> If you do not specify this property, the installation program defaults to a per-user installation.</p>
USERNAME	<p>(Optional) Specify the user that intends to use Toad on the target computer.</p> <p><b>Notes:</b></p> <ul style="list-style-type: none"> <li>• 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.</li> <li>• 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.</li> <li>• If ALLUSERS is 1, the USERNAME value is ignored during installation.</li> </ul>
COMPANYNAME	(Optional) Specify the name of the company that owns this installation.

Option	Description
ALLOWPASSWORDS=FALSE	(Optional) Set in order to prohibit users from saving their passwords in Toad.

**Notes:**

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

## Install Toad on Citrix<sup>®</sup> 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, on the Product Selection page, select Toad for SAP Solutions and click **More Info**. Then select the **Install for everyone** checkbox.
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.
  - If you have users with different license requirements (for example, some have Standard licenses and others have Professional licenses), individual licenses should be entered for each user. You should not enter the default license key because it enables all functionality in Toad.

## Upgrade Toad

### *To upgrade Toad*

1. Run Toad installer from the DVD or downloaded file.
2. Select the products you want to install and click **Install**.

If you are upgrading from a previous version of Toad, you are prompted to migrate your settings the first time you start Toad. The settings files include database connections, layout customizations, shortcut keys, and options customized in the Options pages.

To migrate the settings again, remove or rename the current version's Application Data folder and migrate the files from the previous version's Application Data folder.

# Upgrade Automation Scripts and Scheduling Tasks

If you upgrade to a newer version of Toad, Automation scripts created in a previous version must be upgraded before you can open them in the newer version. Toad prompts you to automatically upgrade a script when you attempt to open it in a newer version.

In addition, *scheduled* scripts are scheduled to run using the version of Toad in which they were created. After upgrading Toad, those previously-created, scheduled scripts will not execute in the newer version until you migrate each script's scheduling task. Toad prompts you to migrate scheduling tasks when you initially launch the application after installation.

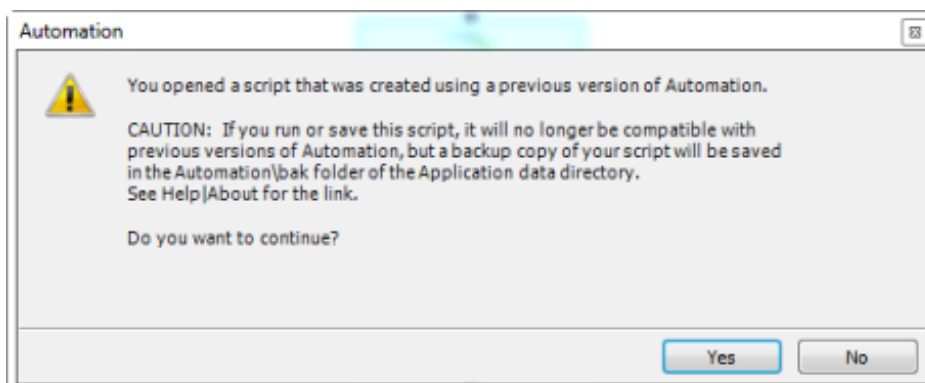
**Note:** If Toad was installed with the **Prohibit saving passwords** option selected, the Automation module is disabled and Toad does not prompt you to migrate scripts.

## Upgrade Automation Scripts to Newer Version of Toad

An automation script is compatible with the version of Toad in which the script was created. If you want to open and/or modify a script using a newer version of Toad, you must upgrade the script. Toad automatically prompts you to upgrade the script the first time you open it in the newer version.

### To upgrade an Automation script

1. Open the script in Toad. Toad prompts you to upgrade the script.



2. To upgrade the script, select **Yes**.
3. Select **No** (and do not elect to save the script), to keep the script compatible with the previous version.
4. If you selected Yes, Toad upgrades your script and saves a backup copy of the original script in the following location:  
**<application data directory>\Automation\bak\**
5. If the script you upgraded is also scheduled, you **must** migrate the scheduling task, otherwise the upgraded script will fail to run.

## Migrate Scheduling Tasks to Newer Version of Toad

Each scheduled Automation script uses a Windows scheduling task. The scheduling task specifies which version of Toad to use by specifying the version's application path. Toad provides you with two easy ways to migrate your scheduled scripts' scheduling tasks when you upgrade Toad. First, Toad prompts you to migrate

scheduling tasks upon initial launch of the application after installation. Next, you can migrate scheduling tasks at any time using the Job Manager.


#### Notes:

- If you upgrade a previously-created script by opening it in a newer version of Toad, you must also migrate the scheduling task to the newer version.
- If you install the newer version of Toad side-by-side with the older version, previously-created, scheduled scripts will continue to execute using the older version, until you migrate the scheduling tasks (provided that you do not open the scripts in the newer version).

#### **To migrate scheduling tasks upon initial launch**

1. After upgrading Toad, and upon initial launch of the application, the Migrate Scheduled Tasks dialog opens.
2. Select the scheduled tasks (scheduled Automation scripts) to migrate to the new version of Toad.
3. Click **OK** to close the dialog.
4. Toad immediately prompts you for your Windows password. Enter your password to migrate the scheduled tasks.

#### **To migrate scheduling tasks using the Job Manager**

1. Select **Tools | Administer | Job Manager**.
2. Click  on the Job Manager toolbar.
3. Select the scheduled tasks to migrate and click **OK**.

**Note:** Only currently-scheduled tasks (enabled or disabled) are listed in the Migrate Scheduled Tasks dialog.

4. Toad immediately prompts you for your Windows password. Enter your password to migrate the scheduled tasks.

## Manually Edit Scheduling Tasks

On occasion you may need to modify the application path in a Windows scheduling task. You can do this by manually editing the scheduling task using the following procedure.

#### **To manually edit a scheduling task**

1. In the Job Manager (**Tools | Administer | Job Manager**), right-click a task and select **Edit Task**.
2. To change the version of Toad used to run the script, in the **Actions** tab, change the folder name in the *toad.exe* path.

## 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 for SAP Solutions by using the Windows install/uninstall programs feature.

### ***To uninstall Toad***

1. Open the Windows Control Panel and select **Programs and Features**. (In Windows XP, select Add/Remove Programs.)
2. Select the product that you want to uninstall.
3. Click **Uninstall**.

---

# 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. 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:

- 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 then 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 a Connection to Intelligence Central


Toad allows you to create a connection to a Toad Intelligence Central server.

## About Toad Intelligence Central Connections


To create a new TIC connection, you must provide the TIC server name and then register with TIC by creating a new user account for yourself. The new user name and password will be used by TIC to identify you from among the group of TIC users and to manage the objects you create and are granted access to on the TIC server.

A TIC connection displays in the format: **username@server**. The *username* is the name of the new user you create when you create a new TIC connection.

### To create an Intelligence Central connection

1. Click  in the Toad Intelligence Central Object Explorer (**View | Toad Intelligence Central**).
2. Select the **Register New User** tab.
3. **Register New User.** Use this tab to register with Intelligence Central by creating your own account (user name and password). Review the following for additional information:


**Note:** If you are creating a connection to a Intelligence Central instance for which you already have a user account, do not fill in this tab again. Skip ahead to the next step (Login tab).

<b>Register New User</b>	
Use Windows Authentication	Select to create a new user account using your Windows credentials. Toad automatically populates the fields with your account information.
Host	Enter the name of the Intelligence Central host server. Click  to display a list of Intelligence Central servers currently active on the network.
User Name	Create a new user name for this connection. This is the name you will be logged in with. The objects you create will be linked to this user name. All your TIC rights (like sharing) will be linked to this user name. This user name will display in the format: <b>username@server</b> <b>Note:</b> User names must be lower case only. When you enter a user name, all upper-case characters are automatically converted to lower-case.
Password	Create a password.
Verify Password	Re-enter the password to confirm.
Full Name	Enter your full name.



	This name, along with your user name, displays on the Sharing tab of the Publishing dialog and in the Alter Visibility dialog. Your full name will help users identify you when they select users with which to share an object.
Email Address	Enter your email address.
Port	Enter the port number for the App Server.

4. **Login as Existing User tab.** Use this tab to create a new connection to a TIC server for which you already have a user account. (When you open an existing connection, this tab displays your user account information.)

<b>Login as Existing User</b>	
Host	Enter the name of the Intelligence Central host server. Click  to display a list of Intelligence Central servers currently active on the network.
User	Enter an existing server user name.
Password	Enter the existing password for the user name.
Data Source	(Optional) Enter the name of a default data source to open upon connection.
Port	Enter the port number for the App Server.
Category	(Optional) Select an existing category or create a new one.

5. (Optional) Select **Save Password** to save your password with this connection.  
**Note:** This option is disabled if Toad was installed with **Prohibit saving passwords** selected.
6. Click **Connect** to connect immediately and save the connection information. Optionally, click **Save** to save the connection without connecting.

### **To change your Intelligence Central user password**

You can change your password for your Intelligence Central user account at any time.

**Note:** You cannot use this procedure to change the password for a Intelligence Central account that uses Windows Authentication.

1. In the Navigation Manager, right-click the Intelligence Central connection and select **Change Password**.
2. Enter the old password and then enter the new password. Enter the new password a second time to confirm.

### **To switch your TIC user account to a Windows Authentication account**

You can switch your current Intelligence Central account to a Windows Authentication account if both accounts have the **same** user name.

1. In the Connection Manager, right-click your current TIC account connection and select **Properties**.
2. In the **Register New User** tab, select **Use Windows Authentication**. Toad prompts you to switch your account.


**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 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 Sybase Issues](#) for more information about troubleshooting connection issues.

**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 a connection type from the **Group** list box.
3. Enter the login information. Review the following for additional information:

Login Tab	Description
Host	Enter the host name for the connection. <b>Note:</b> This field is only available when you select an SAP IQ or SAP SQL Anywhere connection.
Password	Enter the password to use when connecting. <b>Tip:</b> After connecting, you can set a master password to further secure your connection in <b>Tools   Options   Environment   Security</b> .
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. <b>Notes:</b> <ul style="list-style-type: none"><li>• This field is not case sensitive.</li><li>• This field is only available when you select an SAP ASE connection.</li></ul>
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.).  Click <a href="#">here</a> to view a video of this feature.
Options Tab	Description
Language	Set language for your connection to SAP ASE to override your <b>Region   Format</b> settings in <b>Control Panel</b> . If the field is left empty the default language is used. <i>Default is us_english.</i>

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

**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 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). <b>Note:</b> 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. <b>Note:</b> 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. <b>Toad users only enter the instance number.</b>
Type of Authentication	Select: <b>Authentication by the current operating system user</b> - connect using your operating system authentication <b>Authentication by the database user</b> - connect using your database user authentication
User	Enter the user name to use when connecting.
Password	Enter the password to use when connecting. <b>Tip:</b> After connecting, you can set a master password to further secure your connection in <b>Tools   Options   Environment   Security</b> .
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. <b>Single-container</b> — Select for single-container systems. These can be converted to multiple-container systems. <b>Multiple-container</b> — 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 <b>System</b> or <b>Tenant database</b> . 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.).  Click <a href="#">here</a> to view a video of this feature.

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**.

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# Troubleshoot Connections

# Configure Version Control

## About Version Control

Toad integrates with your existing version control system so you can maintain multiple revisions of objects. See ["Configure Version Control for Objects"](#) on page 24 for more information on configuring version control in Toad.

For Version Control of your files handled by Toad see [Version Control for Toad Files](#).

**Important:** See ["Troubleshoot Version Control"](#) on page 28 for more information about issues when upgrading version control from a previous version.

### Notes:

- If you want to place database objects under version control, you must configure version control for objects using the Object Explorer. See ["Manage Objects under Version Control"](#) on page 26 for more information.
- If you rename a version controlled object, Toad drops the original object and its history from version control and prompts you to add the renamed object to version control. This newly renamed object does not have any history associated with it.

## Prerequisites

You must install a supported version control client on the computer where Toad is installed. The following table lists the supported version control providers and the versions tested with Toad.

Supported Provider	Server Version Tested	Client Version Tested
Apache Subversion™	Subversion 1.7.5 on Windows	CollabNet Subversion Command-Line Client 1.7.5 <b>Note:</b> Any Subversion client must have <b>svn.exe</b> in its installation directory to use version control in Toad.
Git	Toad works only with the local repository. For commands such as clone, pull and push use an external tool.	
Team Foundation Server (TFS)	TFS 2008, 2010, 2012, 2013	Visual Studio® (2008, 2010, 2012, 2013) Team Explorer Client
File system based	Toad allows to utilize practically any version control system using the external client tool. In this case Toad Version Control tool works with the directories at local HDD while you commit changes to the repository with version control client tool.	

**Note:** Toad connects to your version control system based on login information included in the configuration. Your version control client does not need to run for Toad to connect.

Details of Team Foundation Server support:

Visual Studio/Team Explorer version	TFS 2013 support notes	TFS 2012 support notes	TFS 2010 support notes
Visual Studio 2015	Supported (RTM or latest update)	Supported (RTM or latest update)	Supported (RTM or latest update)
Visual Studio/Team Explorer 2013	Supported (RTM or latest update)	Supported (RTM or latest update)	Supported (RTM or latest update)
Visual Studio/Team Explorer 2012	Requires latest Visual Studio 2012 update. Supports Git with Visual Studio Tools for Git extension	Supported (RTM or latest update). Supports Git with Visual Studio Tools for Git extension	Supported (RTM or latest update). Supports Git with Visual Studio Tools for Git extension

**Note:** Additional functionality and compatibility with older clients is possible but out of scope of what we are able to test.

## Version Control for Toad Files

Toad can integrate with your existing version control system allowing you to maintain multiple versions of Toad files. After you integrate Toad with your version control system, you can perform version control tasks directly from within Toad, such as commit file changes and retrieve revisions.

Toad supports the following version control systems for managing Toad files:

- Apache Subversion™—Toad has been tested with Subversion 1.7.5 and 1.8.

The following types of files can be managed using version control from within Toad: Editor (.tef, .sql, .txt), Query Builder (.tsm), ER Diagram (.ter), and Automation (.tas).

Toad supports version control for database objects, as well as files. Version control for objects is configured separately from version control for files. For more information about version control for objects, see [Configure Version Control for Objects](#).

### To configure version control for Toad files

1. Ensure that an Apache Subversion client is installed on the same computer as Toad.
2. In Toad, open one of the supported file types. Then right-click the document window tab and select **File Version Control | Version Control Wizard**. This action opens the Version Control Wizard which allows you to configure Toad for your version control system.

**Note:** Even if you previously configured version control for objects, you must run the Version Control Wizard again to configure version control for files.

- Use the wizard to provide information about your version control system to Toad. Review the following for additional information:

Field/Button	
<b>Version Control System Page</b>	
Type	Select <i>Subversion</i> .
Properties	Click the <b>Properties</b> button and enter the path to the Subversion executable ( <b>svn.exe</b> ) on the client computer. For example, if using TortoiseSVN, the path might be: C:\Program Files\TortoiseSVN\bin <b>Note: Do not include <i>svn.exe</i> in the path.</b>
Server	Enter the URL for the Subversion repository on the Subversion server.
Login and Password	Enter the user name and password for your Subversion account.
<b>Default Version Control Settings Page</b>	
Version Control Folder	Select the folder on the Subversion server where you want to check in files. If you currently have files under version control, select the folder on the server where these files are located.
Working Folder	Select a folder on the client computer to use as the root working folder. This is the location into which you will check out files. If you currently have files under version control, select your existing working folder.

### **To add a file to version control**

- After configuring version control for files, you can start adding files to version control from within Toad. Right-click a document window tab and select **File Version Control | Add file to working folder**.
- Select a location in your working folder in which to save the file. Click **Save**.
- In the Commit dialog, enter a comment and click **OK** to add the file to version control.

### **To browse the repository**

- Right-click the document window tab (of one of the supported file types) and select **File Version Control | Repository Browser**.
- In the Repository Browser you can right-click a file to perform one of the following actions. Available actions depend on the file's status.

Action	Description
Open	Open the file in Toad.
Commit	Commit your changes. Available for <i>Modified</i> or <i>Untracked</i> files.
Undo Changes	Discards your changes and reverts to the previous revision of the file (previous commit). Available when the file status is <i>Modified</i> .
Get Latest Version	Check out the latest revision from the remote repository. Available when the file status is <i>OutOfDate</i> .

### **To commit your changes**

- After modifying a file, right-click the document window tab and select **File Version Control | Commit**.

### To compare revisions (Editor files only)

- After modifying and saving an Editor file, you might want to compare your changes to the remote copy (last commit) before committing your changes. Right-click the document tab and select **File Version Control | Diff with latest revision**.
- You can compare two revisions of an Editor file (.tef, .sql, or .txt) by using the History dialog.
  1. To open a file's History dialog, right-click the document tab and select **File Version Control | Show history**.
  2. Select two revisions to compare. Then right-click the revisions and select **Compare revisions**.
  3. For an *OutOfDate* file, right-click the latest revision in the History dialog and select **Compare with working copy** to compare the remote file to your working copy.

### To check file status

- The status of a currently open file displays in the status bar of the document window. You can also place the cursor over the document tab to display status.
- You can check the status of one or more files by using the Repository Browser. To update file status in the Repository Browser, right-click a folder and select **Update folder**.
- Review the following file status definitions.

File Status	Definition
Untracked	The file has not been added to version control. Right-click the file in the Repository Browser and select <b>Commit</b> to add it to version control.
UpToDate	The file in your working folder is synchronized with the file in the remote repository. No changes are detected. No action is required.
Modified	The working copy of this file was modified. The changes are stored in the working folder only. Commit this file to add the changes to the remote repository.
OutOfDate	A more recent revision of this file exists in the remote repository. To update your working copy, check out the latest revision from the remote repository (right-click the file and select <b>Get Latest Version</b> ).
Unknown	The file is under version control, but its status cannot be determined.
Deleted	The file was under version control, but it was dropped or renamed in the working folder and exists only in the remote repository.

### Additional Actions

- To open the folder where a file is located, open the file and then right-click the document tab and select **File Version Control | Open in Windows Explorer**.

## Configure Version Control for Objects

To configure version control for files, see [Version Control for Toad Files](#).

### To configure version control for Objects

1. Ensure that a supported version control client is installed on the computer where Toad is installed. See "[About Version Control](#)" on page 21 for more information about tested version control clients and supported versions.



- Right-click one or more objects in the Object Explorer and select **Version Control | Version Control Wizard**.

**Note:** Version control is configured .

- Review the following for additional information:

Version Control System Page	Description
Type	<p>Select the version control system name:</p> <ul style="list-style-type: none"> <li>Apache Subversion™</li> </ul> <p><b>Note:</b> The version number beside Subversion is an internal file definition used by Toad to check if an update for this file is available. It is not the actual version number for the version control provider.</p> <ul style="list-style-type: none"> <li>Git</li> <li>Team Foundation Server</li> </ul> <p><b>Note:</b> If you select TFS, you must specify the workspace name for the provider in the Team Foundation Server Properties window that displays.</p> <ul style="list-style-type: none"> <li>File system based</li> </ul>
Properties	<p>(Subversion only) Click this button (beside the <b>Type</b> field) and complete the binary path. Enter the path where the Subversion client that contains <b>svn.exe</b> is installed. For example, if you installed the CollabNet Subversion Client, you would enter:</p> <p>C:\Program Files\CollabNet Subversion Client</p> <p><b>Note:</b> <i>Do not</i> include <b>svn.exe</b> in the path.</p>
Server	<p>Select one of the following:</p> <ul style="list-style-type: none"> <li>Subversion—Specify the existing working folder for the version control repository or specify the server string (for example: <code>svn://MyServer</code>).</li> <li>TFS—Specify the server where your version control provider is installed and the port number (default is 8080) to use in the following format: <ul style="list-style-type: none"> <li><code>http://MyServer:Port</code> for TFS 2008</li> <li><code>http://MyServer:Port/TFS</code> for TFS 2010, 2012</li> </ul> </li> <li>File System Based—Specify a directory at your local machine.</li> </ul>
Repository Settings	<p>Set your local Working Folder and your Version Control Folder will be automatically filled.</p>
User name/ Password	<p>Enter your Subversion command-line user name and password and click <b>Login</b>.</p> <p><b>Note:</b> For TFS only, if you leave the user name and password fields blank, Toad uses your default Windows credentials.</p>
Version Control General Options Page	Description
Prompt to Commit on Close	<p>You will be asked to commit your changes before each version controlled file is closed</p>

Version Control Configurations Options Page	Description
Version control folder	Select the folder on the version control server where you want to check objects in. If you already have objects under version control, select the folder on the server where these objects are located. <b>Note:</b> Version control automatically checks out objects in this folder and any subfolders to the location you specify in the <b>Working folder</b> field.
Working folder	Select the root repository folder on the client computer to use as the default working folder for checking objects out. If you already have objects under version control, select the existing working folder for these.

4. Manage object and scripts using Version Control. See "[Manage Objects under Version Control](#)" on page 26 for more information.


## Manage Objects under Version Control

**Note:** Version Control should be configured in Toad before you start managing objects. See "[Configure Version Control for Objects](#)" on page 24 for more information.

### To add objects under version control

- » Right-click an object and select **Commit**.

#### Tips:

- The objects under version control are marked with  sign at the top right corner of the object's icon.
- If you rename a version controlled object, Toad drops the original object and its history from version control and prompts you to add the renamed object to version control. This newly renamed object does not have any history associated with it.

### To manage objects under version control

1. Determine object's version control status. Hover a mouse over the object in the Object Explorer to see its status. Review the following for additional information:

Version Control status	Description
Uninitialized	The object status is undetermined yet. This is a temporary status that is issued for all objects during version control status processing.
Untracked	The object is not added to version control.
Ignored	The object is added to ignore list and excluded from version control.
UpToDate	The object is under version control and is synchronized with version control repository. No changes are detected.
Modified	The object is under version control and has been modified by user. The changes are stored in local database only and need to be synchronized with version control repository.
Merge	The object is under version control and has been modified in both local database and version control repository. <b>Note:::</b> Toad's Version Control feature does not allow to merge object scripts.

Version Control status	Description
OutOfDate	The object is under version control and has been modified in version control repository.
Unknown	The object is under version control but for some reason its status cannot be determined (for example, you created a script in your local database while the script with the same name already exists in version control repository, or you upgraded to a higher version of Toad and configured version control for the same repository while you have some uncommitted changes in the database). <b>Tip:</b> If you are sure that the object is up to date but is listed as unknown, commit the object in version control system to resolve unknown status.
Deleted	The object was under version control, but it was dropped or renamed in local database and exists only in version control repository. <b>Tip:</b> You can see deleted objects in the Controlled objects pane only. To access it right-click any object and select <b>Show perspective</b> . Once you commit changes in Controlled objects pane, the object with all history will be deleted from version control repository.
NotInView	The object is under version control and exists in version control repository only.

2. Right-click an object and select one of the following actions:

Use	To...
Show perspective	Select to review all controlled objects for current configuration.
Diff	Select to review differences between the object script in your local database and the object's revision that was applied to it. <b>Note:</b> Diff is unavailable for File System Based configuration.
Diff with latest revision	Select to review differences between the object script in your local database and the latest revision in the version control repository.

**Example:** You got the latest object revision from the repository 2 days ago. By the time you did it, the latest revision was 5. Yesterday your colleague worked with the same object and committed changes in the repository, which are now marked as revision 6.

Today you altered the object's script and want to see the differences. You can select one of the following:

- Diff—To compare the object in your local database with revision 5.
- Diff with latest revision—To compare the object in your local database with revision 6.

Show history	Select to review all commits for selected object. <b>Tip:</b> Select <b>Show history</b> on database to review all commits. <b>Note:</b> Show History is unavailable for File System Based configuration.
Get latest revision	Select to apply object's changes from the version control repository to your local database. The synchronization script is generated to update selected object to the latest revision.
Commit	Select to apply object's changes from your local database to the version control repository. <b>Note:</b> You should write a comment when committing changes.
Undo changes	Select to rollback changes in your local database. The synchronization script is generated to revert object to the revision which was a applied

Use	To...
	last time.
Update status	Select to compare a script in your local database with the script in the repository. New status will be issued according to the comparison results.
Add to ignore list	Select to exclude object from the version control. Ignored objects are not listed in Controlled Objects pane, <b>Commit</b> and <b>Get latest revision</b> are disabled.
Remove from ignore list	Select to set object status as <i>Untracked</i> and add it to version control.
Open in Windows Explorer	Select to navigate to the file in the Windows Explorer.

**Tip:** You can enable, disable, or delete a version control configuration under **Tools | Options | Version Control | Configurations**.

## Troubleshoot Version Control

### Troubleshoot Upgrades

For this release, the back-end of version control has been rewritten. If you previously used version control in Toad, the following may occur:

- Version control settings are not migrated from the previous version of Toad, so you have to reconfigure version control in Toad.
- In previous releases, the method Toad used to generate the script was different than the current method. After upgrading Toad and reconfiguring version control, the local revision of the objects differs from version control repository (The objects have Unknown status). If the object in your database is current, you should commit it into version control.

### Troubleshoot Other Issues

Review the following to help troubleshoot issues with version control:

Apache Subversion™ Issues	Description
System cannot find file	If a message stating that, "The system cannot find the file specified" displays, this usually means that the Subversion executable cannot be found in the path you specified in the <b>BinaryPath</b> field of the Command Based Version Control Properties window. Verify that <b>svn.exe</b> exists in the directory you specified in this field.
Command execution	When executing Subversion commands, user input is not allowed. This presents an issue when the user is using Subversion with the SSH method and must enter a password to establish the Secure Shell. <b>Workaround:</b> Generate identity keys that automatically authenticate between the client and the server when connecting with SSH.

<p>OutOfMemory exception when adding a large number of objects</p>	<p>When adding a large number of objects, Subversion may encounter OutOfMemory exception.</p> <p><b>Workaround:</b> Commit objects in several steps.</p>
<p>SVN is missing in the list of available providers</p>	<p>If Subversion is missing in the list of available version control providers, it means that <b>Subversion.xml</b> was removed or corrupted.</p> <p><b>Workaround:</b> Contact Support to get a new <b>Subversion.xml</b> and place it under <code>&lt;Toad install path&gt;/Templates/Version Control/</code>.</p>

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