

 **Tab3**  **PracticeMaster**

# *Platinum SQL*



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Software Technology, Inc.  
1621 Cushman Drive  
Lincoln, NE 68512  
(402) 423-1440  
[www.PracticeMaster.com](http://www.PracticeMaster.com)

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# Platinum SQL Guide

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Platinum SQL must be properly configured in order to take full advantage of the powerful features included with the software. This document is intended to assist firms in configuring the unique features of the Platinum SQL software once it has been installed. For assistance with the installation process, see the Version 16 CD Installation instructions included with the installation CD. Information on configuration of standard Platinum features can be found in the Platinum Server manual, which is installed with the Tabs3 and PracticeMaster Platinum software.

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## Introduction

The Platinum SQL software provides additional features beyond the standard Platinum Software. These features allow firms to take advantage of the latest server hardware and provide significantly faster access to Tabs3 and PracticeMaster data from other database software applications.

### 64-bit Server Support

Platinum SQL is designed to utilize 64-bit server capabilities for faster data access. While the standard Platinum software will run on a 64-bit Windows server, because it is a 32-bit application it is still subject to 32-bit memory limitations. For example, a 64-bit Windows server with 32GB of physical memory can only allocate up to 2GB to the standard Platinum Server software for caching purposes. Caching

frequently used data and index files in memory provides a significant boost in performance, and larger firms will often require more than 2GB. Because Platinum SQL is a 64-bit application, it is not subject to the 2GB limitation, thus allowing you to take full advantage of your 64-bit server's additional memory!

### **Enhanced ODBC Access**

Platinum SQL software includes an SQL ODBC driver. This driver allows a variety of third-party programs, such as Microsoft Access or Crystal Reports, to query the Tabs3 and PracticeMaster database. The Platinum SQL ODBC driver has the following advantages:

- **Accelerated SQL Processing** - Platinum SQL provides significantly faster reports when using ODBC-capable software. The standard ODBC driver for Tabs3 and PracticeMaster software processes all queries at the workstation, meaning that all of the data is sent to the workstation via the network and then filtered based on the query. With Platinum SQL, all queries are processed at the server, and only the results are returned over the network, improving performance and reducing network load.
- **64- & 32-bit Access** - The SQL ODBC driver included with the Platinum SQL software is available in both 64-bit and 32-bit versions. This allows you to access the Tabs3 and PracticeMaster database from 64-bit and 32-bit programs. Users with 64-bit workstations can install both drivers, and will only need to configure the ODBC data source once.
- **Firm-wide License Included** - The license for the standard ODBC driver is purchased per workstation. The ODBC driver included with the Platinum SQL software is licensed for use by the entire firm. These ODBC SQL drivers are included at no extra charge.
- **Microsoft SQL Server Access via OLE DB** - Platinum SQL supports OLE DB access. In addition to standard ODBC access, Tabs3 and PracticeMaster data is also accessible from OLE DB compatible software using the Microsoft OLE DB Provider for ODBC. This includes Microsoft SQL Server software.

In order to take advantage of these features, configuration is required for both the Tabs3 and PracticeMaster software as well as the Platinum SQL ODBC drivers.

### **Taking Advantage of your 64-bit Server**

As a 64-bit program, the Platinum SQL Server is capable of allocating additional memory for caching beyond the 2 GB limit of 32-bit programs. Caching of data and index files significantly improves performance for server-based functions such as accelerated reports and filtering. In order to take advantage of this feature, you must edit the CTSRVR.CFG file located in the program directory. The default cache settings for the CTSRVR.CFG are set conservatively low to prevent problems for firms whose servers are not equipped with additional memory beyond the minimum requirements. Additionally, the optimal values for these settings are based on the size of your firm's data and index files, and therefore vary significantly between firms.

Therefore, when upgrading from Platinum to Platinum SQL, you will most likely **not** notice any significant improvement in day to day performance until these settings have been optimized.

## Configuring Memory Allocation

The following are the default settings in the CTSRVR.CFG file:

- DAT\_MEMORY is set to 1400MB
- IDX\_MEMORY is set to 700MB

This configuration is designed for a Platinum server computer with at least 4GB of RAM, with the assumption that the data files are somewhat larger than the index files. Most Platinum firms will want to assign additional memory to ensure optimal performance. See the following [Calculating Your Ideal Cache Sizes](#) section for a more detailed method of determining the ideal cache sizes for your firm's specific needs.

**Note:** Installations purchased before January 16th, 2012 had default DAT\_MEMORY and IDX\_MEMORY settings of 125MB and 75MB respectively.

**Note:** Changes made to CTSRVR.CFG do not take effect until the next time Platinum Server is started.

### How Caching Works

When Platinum Server is started, it reserves a set amount of memory on the server specifically for data and index files. This memory is allocated to Platinum Server, thereby preventing it from being used by other applications running on the same server. The amount of memory reserved by Platinum Server is determined by the combined amounts of the DAT\_MEMORY and IDX\_MEMORY settings in the CTSRVR.CFG file.

The goal when configuring the cache size is to keep the most commonly accessed data and index files in memory. When a file is accessed by the Tabs3 and PracticeMaster software, it is read from the server's hard drive into memory. Once the file is read into memory, the software can access it significantly faster than it can from the hard drive. As long as the file is in use, and cache memory is not full, it will remain in cache. For example, if multiple users are entering fees in Tabs3, T3FEE.DAT is cached to improve performance. Once the last user stops accessing T3FEE.DAT, it is no longer cached.

Generally speaking, allocating more memory to Platinum Server will increase its performance. However, allocating too much memory to Platinum Server can negatively affect the overall server performance due to increased page file activity. Additionally, allocating more memory than necessary reduces the amount of memory available for other programs on your server such as Exchange or MS SQL servers. How much memory is needed and how much is available to allocate will vary depending on your Tabs3 and PracticeMaster data as well as your server's available memory and operating system. Ideally, you should have enough memory allocated so that your most commonly used .DAT and .IDX files can remain cached throughout the day. From a practical standpoint, your server may not have enough memory to meet this goal.

The processes that benefit the most from caching are accelerated Tabs3 and PracticeMaster reports, filtering records in PracticeMaster, and SQL queries.

## Calculating Your Ideal Cache Sizes

To determine your ideal cache sizes, review the .DAT and .IDX file sizes in your Tabs3 and PracticeMaster current working directory, as well as those present in the CMSYSTEM folder. Note any .DAT files that are significantly larger than the others and add up their total size. (**Note:** Do not include files that begin with CMARC or T3ARCH in this total.) This is your ideal DAT\_MEMORY size. Repeat the same process with the .IDX files to determine the ideal IDX\_MEMORY size. Before assigning these values to the CTSRVR.CFG, read the information below.

32-bit versions of Windows-based operating systems are restricted to a maximum of 4GB of physical memory (RAM). Additionally, Windows (regardless of whether it is a 32-bit or 64-bit version) will only allocate up to 2GB of memory to the 32-bit Platinum Server. The Platinum SQL Server can access memory beyond the 2GB limit. For firms with large amounts of data, this allows you to allocate additional amounts of memory to caching. It is not unusual for larger firms to need to allocate 25GB or more of RAM to caching. As stated above, you should have enough memory allocated that the most commonly accessed .DAT and .IDX files can all be cached in memory. This significantly improves performance for accelerated reports and filtering in PracticeMaster, particularly with larger data sets.

**Note:** Do not allocate more memory than is physically present on the server. Also, you must leave enough memory available for file system caching and any other programs running on the server.

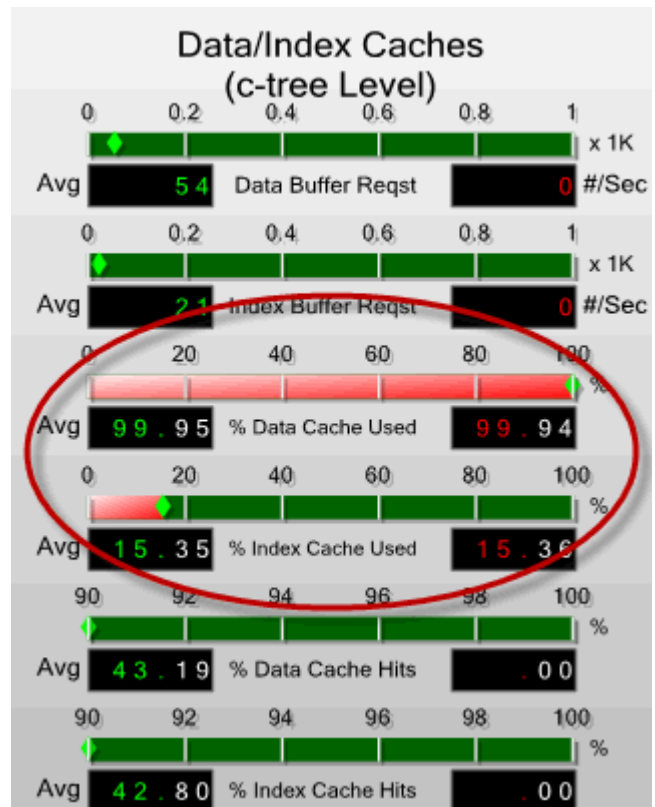
## Determining Current Cache Usage

Platinum SQL includes a utility for measuring activity on your Platinum Server called c-treeACE Gauges. Among its features is the ability to track the data and index memory used by the Platinum Server. This allows you to determine if the amount of cache you have assigned is sufficient.

**Note:** When testing cache usage, have the users run accelerated reports in Tabs3 and/or PracticeMaster and filter records in PracticeMaster during a normal workday for the firm. If there are reports or filtering processes that have been noticeably slower than others, those should be of particular interest when testing. Knowledge Base Article [R11182](#), "Tabs3 and PracticeMaster Accelerators" contains a list of accelerated reports.

### To access the c-treeACE Gauges program

1. Open the Tabs3 and PracticeMaster current working directory on the server.
2. Open the **SQL Extras** folder.
3. Copy the **Unsupported** folder to your local drive. (**Note:** It is possible to run this program across the network from the server; however,



*you will not have access to the included help files.)*

4. Double-click the **Unsupported** folder on your local drive.
5. Double-click **c-treeGauges.exe**.
6. Enter "STI\_SERVER" in the **Server Name** field.
7. Enter the Platinum Server computer's network name or IP address in the **Machine Name / IP Address** field.
8. Enter "STADMIN" in the **User Name** and **User Password** fields and click **OK**.
9. Select **View / Advanced**.

The section relating to memory cache usage is titled **Data/Index Caches**. The **% of Data Cache Used** and **% of Index Cache Used** areas indicate what percentage of the allocated data and index caches are being used. The numbers under each bar on the left indicate average usage, whereas the numbers on the right indicate current usage.

**Note:** The gauges do not display the actual amount of memory allocated; this information is only available in the CTSRVG.CFG file.

You should aim for an average value of 80-90%, which allows for unusually heavy usage as well as leaving room for growth in the data and index files over time. If your firm notices a drop in performance during heavy usage, this utility can help you determine if more memory should be allocated to caching.

In the example pictured above, nearly 100% of the data cache is in use, while only 15-16% of the index cache is in use. This indicates that additional memory should be allocated to the data cache, while the index cache amount could be lowered by 70-80%. Let's assume that your firm has allocated 4GB of RAM, divided equally between the data and index caches (2GB apiece). You need to lower the index cache by 75%, giving a value of 512MB for the index cache. Unfortunately, there is no way of determining how much additional memory is needed for the data cache based on the information available, so the goal at this point should be to allocate **more** memory than is needed, in order to determine how much of that memory is actually in use. For example, you could try increasing the amount of memory assigned to the data cache to 3GB and running the test again. If the **% of Data Cache Used** value drops significantly below 100%, you can then adjust the value for the data cache the same way you did for the index cache.

**Note:** It may be necessary to experiment when allocating more memory. Additionally, because you must restart Platinum Server each time you edit the CTSRVR.CFG file, you may need to perform the test over the course of several days. Once you have the values set where you think they should be, you may want to set up a schedule to periodically check the values during heavy usage periods to ensure optimal memory allocation and performance.

## **Configuring ODBC/SQL Access**

This section will walk you through the process of configuring your Platinum SQL Server and workstations for ODBC access.

## Configuring Tabs3 and PracticeMaster for Platinum SQL

Once the Tabs3 and PracticeMaster Platinum SQL software has been installed, you can begin configuring the Tabs3 and PracticeMaster software to connect to the Platinum SQL Server.

### Initializing the SQL System

Prior to accessing the Platinum SQL Server, the SQL database must be linked to the existing Tabs3 and PracticeMaster tables. This is done using the Initialize SQL function in System Configuration.

#### To initialize the SQL database

1. Perform a Data File Integrity Check in each of the following programs that are installed to ensure that all data files have been created:
  - Tabs3
  - PracticeMaster
  - TAS
  - APS
  - GLS (for each GLS client)
2. Have all users exit the Tabs3 and PracticeMaster software.
3. Launch System Configuration.
4. From the **Platinum** menu, select **Initialize SQL**.
5. Click the **OK** button.
6. When the process is complete, click the **OK** button.

**Note:** This process must be run after any changes are made to the Tabs3 and PracticeMaster data structure, such as after a conversion, or whenever changes are made in PracticeMaster File Maintenance.

### Configuring User Rights

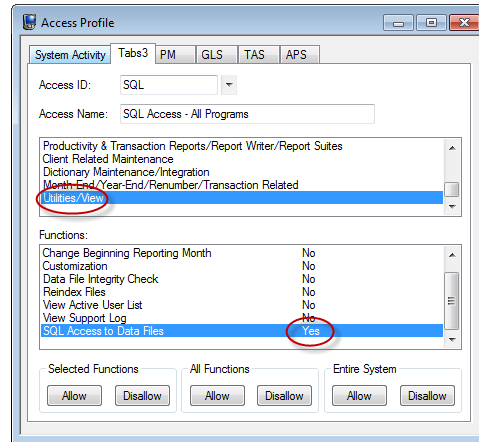
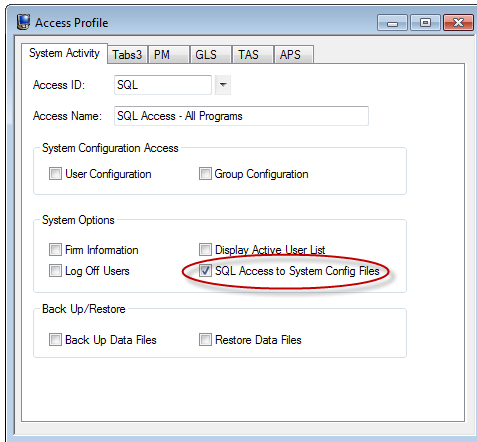
Access to the Platinum SQL Server is determined by a user's Access Profile. Each Tabs3 and PracticeMaster application has a separate SQL setting in the Access Profile. In order to access a program's tables using the SQL ODBC driver, your User ID must be assigned to an Access Profile with that program's SQL access right enabled. Additionally all users that will be using the SQL ODBC driver must have a password assigned.

**Note:** SQL access rights are not included in the MANAGER Access Profile. Any users assigned to this profile that will be accessing the Platinum SQL Server will need to be assigned an additional Access Profile with appropriate SQL rights. You may want to consider creating one or more Access Profiles that only relate to SQL rights and assigning those to users who need SQL access in addition to their existing access profiles.

#### To configure an Access Profile for SQL access

1. Launch System Configuration, and select **File | Open | Access Profile**.
2. Click the **Access ID** drop down and select the access profile you want to edit from the list.

- From the **System Activity** tab, select the **SQL Access to System Config Files** check box if you want to enable access to System Configuration tables such as Access Profiles, Users, and the Support Log.
- For Tabs3, PracticeMaster, GLS, TAS, and APS, click the appropriate tab and select the **Utilities/View** group in the first box that includes a list of groups of functions.
- Select **SQL** in the lower box that includes a list of functions, and click the **Allow** button under **Selected Functions**.
- Perform steps 4 and 5 for each program that members of this Access Profile should have access to via SQL.

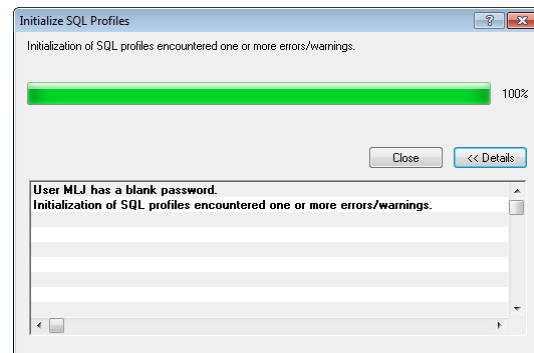


## Initializing SQL Profiles

Once the SQL database has been initialized and the Access Profiles configured, the Initialize SQL Profiles function must be run in System Configuration. This process applies the Access Profile settings for each user to the SQL database, allowing it to determine which users have access to which tables.

### To initialize the SQL profiles

- Launch System Configuration.
- From the **Platinum** menu, select **Initialize SQL Profiles**.
- Click **OK**.
- When the process is complete, a window similar to the following will display any errors encountered:



If any errors are encountered, resolve them and then run the Initialize SQL Profiles process again.

**Note:** Whenever changes are made to the Users or Access Profiles that will affect SQL access, System Configuration will prompt you to re-initialize the SQL Profiles in order for those changes to take effect.

## Installing the ODBC Driver

The c-treeACE ODBC driver allows other programs to access the Platinum SQL Server. Each computer that will be used to access the Platinum SQL database must have this driver installed. Platinum SQL includes both 32-bit and 64-bit versions of the ODBC driver. For computers running a 32-bit operating system, you only need to install the 32-bit version of the driver. For 64-bit operating systems, install both drivers to ensure compatibility with both 32-bit and 64-bit software. For example, a workstation running Windows 7 64-bit may have the 32-bit version of Microsoft Excel 2010. In this case, the 32-bit ODBC driver must be installed in order for Excel to access the Platinum SQL database.

### To install the ODBC SQL driver(s)

1. From the workstation on which you are installing the driver, access the current working directory on the server. (**Note:** *The location of the current working directory can be determined by selecting **Help | About** in any **Tabs3** and **PracticeMaster** program on the workstation.*)
2. Open the **SQL\_Extras** folder in the current working directory.
3. Double-click **ODBC\_SQL\_32.msi** and proceed with the installation. When the installation is complete, click **Finish**.
4. Double-click **ODBC\_SQL\_64.msi** and proceed with the installation (64-bit operating systems only). When the installation is complete, click **Finish**.

Once you have installed the drivers, you can proceed with configuring your ODBC Data Source.

## Configuring an ODBC Data Source

The following steps will help you set up an ODBC Data Source to extract information from **Tabs3**, **PracticeMaster**, **GLS**, **TAS**, **APS**, or **System Configuration**.

Prior to configuring an ODBC Data Source, you must complete the previous steps found in this document.

**Note:** These steps must be completed on each workstation that will be accessing the Platinum SQL data.

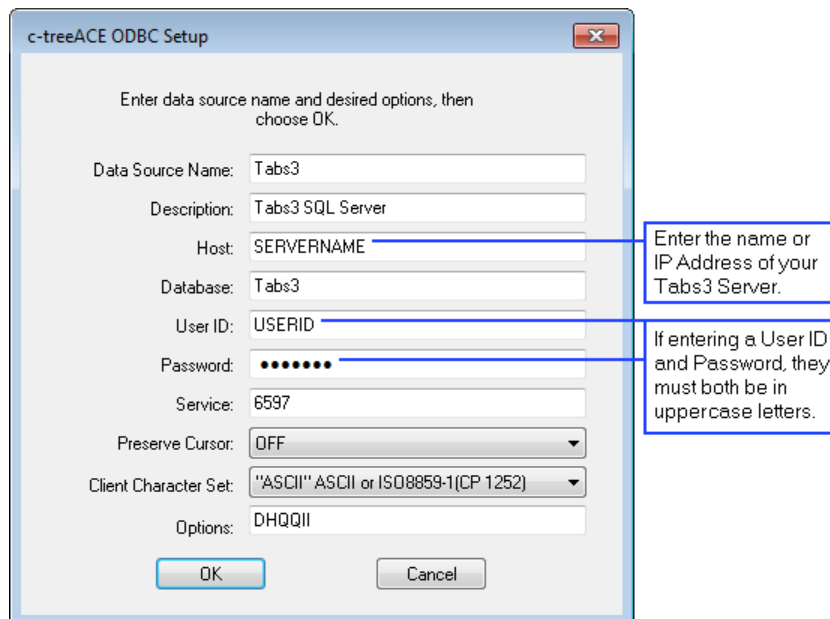
### To configure the ODBC Data Source

1. Start the ODBC Administrator (**Start | Control Panel | Administrative Tools | Data Sources**).
2. Select the **User DSN** tab (usually selected by default). If you will be accessing the data source from an [MS SQL Linked Server](#), select the **System DSN** tab. A User DSN is only available to a single Windows user on a workstation, while a System DSN is available to all users.
3. Click **Add**.
4. From the driver list, select **c-treeACE ODBC Driver** and click **Finish**. (**Note:** *If c-treeACE ODBC Driver is not displayed, verify that you have [installed the ODBC drivers](#) (including both 32-bit and 64-bit versions if you are running a 64-bit operating system) before proceeding.*)
5. For the **Data Source Name**, enter something recognizable with no spaces, such as **Tabs3**.
6. For the **Description**, enter a description for this data source.
7. In the **Host** field, enter the IP Address or name of the server computer.

8. For the **Database**, enter **Tabs3**.
9. For the **User ID** and **Password** fields, enter your Tabs3 and PracticeMaster **User ID** and **Password** in all uppercase.

**Note:** The **User ID** and **Password** fields can be left blank; however, you will be prompted for the **User ID** and **Password** when accessing Tabs3 and PracticeMaster data via the Platinum SQL Server. The **User ID** used will determine which programs' data will be available.

10. In the **Service** field, enter **6597**.
11. In the **Preserve Cursor** field select **"OFF"**. (*Note: This field is blank for the 64-bit version*)
12. In the **Client Character Set** field, select **"ASCII" ASCII or ISO8859-1(CP1252)**.
13. In the **Options** field, enter **DHQQII**.
14. Click **OK**.



## Accessing Platinum SQL from a Microsoft SQL Server

If you will be accessing the Tabs3 database from a Microsoft SQL Server using the Microsoft SQL Server Linked Server feature, there are additional configuration steps you will need to perform.

### Configuring MS SQL Management Studio

1. Configure an ODBC Data Source using the above "To Configure the ODBC Data Service" section. (*Note: For Step 2 in this section, select the System DSN tab instead of the User DSN tab.*)
2. Start the Microsoft SQL Management Studio.
3. In the Object Explorer, open **Server Objects | Linked Servers**.
4. Right-click **Linked Servers** and select **New Linked Server...** to open the New Linked Server window.

5. In the **Select a page** pane, select **General**.
  - a. For the **Linked Server**, enter **Tabs3**.
  - b. For the **Server Type**, select **Other data source**.
  - c. For the **Provider**, select **Microsoft OLE DB Provider for ODBC Drivers**. (*Note: If this option is not available, you may need to install the Microsoft 64-bit OLE DB Provider for ODBC on your Microsoft SQL Server. See KB Article [R11397](#) for more information.*)
  - d. For the **Product name**, enter **ODBC**.
  - e. For the **Data source**, enter the name of your ODBC Data Source, as specified in Step 5 in the above "[To Configure the ODBC Data Service](#)" section.
6. In the **Select a page** pane, select **Security**.
  - a. Select the **Be made using this security context** option.
  - b. In the **Remote login** field, enter your Tabs3 and PracticeMaster **User ID** in all uppercase.
  - c. In the **With password** field, enter your Tabs3 and PracticeMaster **Password** in all uppercase.
  - d. Click **OK**.
7. In the Object Explorer, open **Server Objects | Linked Servers | Providers**.
  - a. Right click **MSDASQL** and select **Properties**.
  - b. Select the following check boxes under **Provider options**:
    - **Nested queries**
    - **Allow inprocess**
    - **Supports 'Like' operator**
  - c. Clear the following check boxes under **Provider options**:
    - **Dynamic Parameter**
    - **Level zero only**
    - **Non transacted updates**
    - **Index as access path**
    - **Disallow adhoc access**
  - d. Click **OK**.

## Learning SQL

We recommend that users familiarize themselves with SQL prior to performing queries in Platinum SQL. There are multiple resources available both online and in print form. When selecting a resource, be aware that many of these texts are aimed at a particular product such as Microsoft SQL Server, MySQL, etc. When selecting an SQL resource, we recommend choosing one that is aimed at general SQL usage.

### Web Resources

- [Wikipedia's SQL article](#)
- [Wikibooks - Structured Query Language](#)
- [SQL Tutorial from W3Schools.com](#)
- [SQL Tutorial \(beginner-sql-tutorial.com\)](#)

### Printed Books

- *Learning SQL* - Alan Beaulieu

- *Teach Yourself SQL in 10 minutes* - Ben Forta
- *Head First SQL: Your Brain on SQL - A Learner's Guide* - Lynn Beighley
- *The Language of SQL: How to Access Data in Relational Databases* - Larry Rockoff
- *A Visual Introduction to SQL* - David Chappell and J. Harvey Trimble Jr.
- *SQL for Dummies* - Allen G. Taylor
- *SQL Queries for Mere Mortals: A Hands-On Guide to Data Manipulation in SQL* - John L. Viescas and Michael J. Hernandez
- *SQL: Visual QuickStart Guide* - Chris Fehily
- *SQL in a Nutshell* - Kevin Kline, Brand Hunt, and Daniel Kline

**Note:** These web sites and books are intended as a sample of the resources available for learning SQL. Tabs3 and PracticeMaster does not endorse or guarantee the quality of any of the references listed above. Users wishing to learn SQL are advised to sample the available materials and select one or more guides appropriate to their learning style.

### **FairCom Reference Guide**

FairCom provides a reference guide for c-treeACE SQL, which is the basis of the Platinum SQL Server. This guide details the various SQL functions, terms, and syntax used by the Platinum SQL Server. The web-based (HTML) version of the reference guide is available at <http://www.faircom.com/doc/sqlref/index.htm>. A PDF version is also available at <http://www.faircom.com/doc/sqlref/sqlref.pdf>.

**Note:** This reference guide is a technical guide aimed primarily at programmers and is not intended as an introduction to SQL.

### **Platinum SQL Syntax Information**

Knowledge Base Article [R11426](#), "Platinum SQL Syntax Information" contains detailed information on known differences in SQL syntax between Platinum SQL and other commonly used products.

