Dentrix® API Authentication

Version 2.2

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Revision History

Version	Date	Change
2.1	08/20/2014	*Initial release*
2.2	09/04/2015	*Added details for registering API user account for G5 through G6.1* *Added details for registering API user account and requesting site-specific API credentials using new method implemented with G6.2* *Added requirement and details for signing application*

Introduction

This document outlines the process for registering a user account with the Dentrix API as well as connecting to the API once the account is registered. As noted in the document, the processes for Dentrix *G5* to *G6.1* vary from those required for Dentrix *G6.2* and above.

1. Registering Account with Dentrix

In order to gain access to the Dentrix API, your account must be registered with a given Dentrix (G5 and above) system using the appropriate method described below, according to the installed Dentrix version.

1.1 Dentrix G5 to G6.1:

For Dentrix versions G5 to G6.1, your account must be registered using the Create User utility (named ***CreateUser_<Your API Username>_<Version>.exe***). The Create User utility adds your API user account to a Dentrix G5 or higher database and gives you access to the available Table Views and Stored Procedures. To run the Create User utility, do the following:

1. Copy the Create User utility (self-extracting zip file) to any location on any computer running Dentrix G5 or higher. The Create User application does <u>not</u> need to be run on every workstation on a Dentrix network, but does need to be run on every Dentrix G5 or higher database that you will be accessing through the Dentrix API.

2. When the Create User utility is successfully initialized, the user will be prompted to authorize Dentrix data access for your application as illustrated in Figure 1. If passwords have been enabled in Dentrix for the practice, the user will also be required to enter their Dentrix password (and will specifically need rights to the "Password Administration" security option in Dentrix) in order to authorize data access to your application.

Figure 1
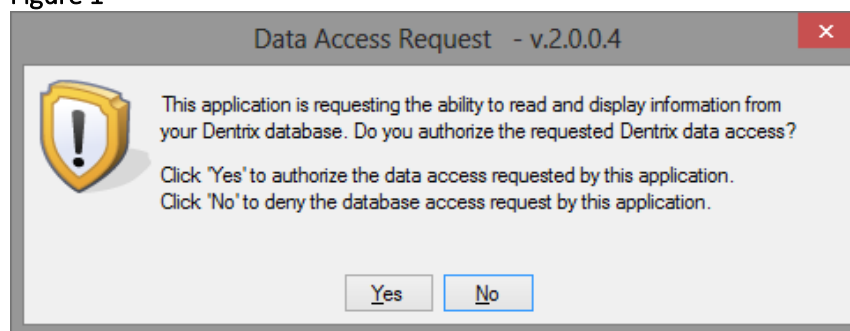
3. Once the user has authorized data access for your application from the Data Access Request prompt, the Create User utility will do the following:

    - Add your API user account and credentials to the Dentrix G5 or higher database
    - Display the progress of the update (including any errors that may occur) in a *Dentrix DDP Update* window as shown in Figure 2

- Once your API user account and credentials have been successfully added, a "Success" status will be displayed and the OK button on the *Dentrix DDP Update* window will become enabled to close the window

Figure 2
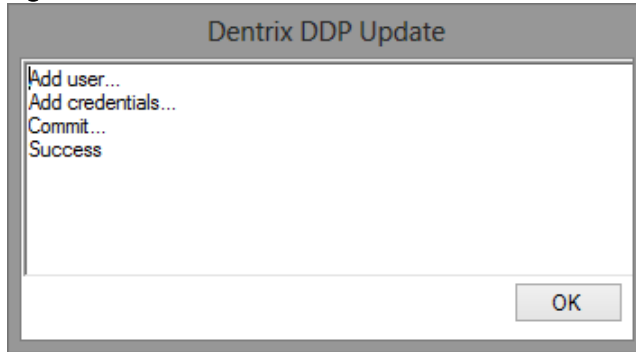
4. In addition to displaying the Create User progress in the *Dentrix DDP Update* window, the progress of the update will also be written to a CreateUser.log file in the following directory under the Common path on the Dentrix server: \Doc\Exports\Installs. The Common path for Dentrix is set in the registry as follows:

32-bit OS

HKEY_LOCAL_MACHINE\SOFTWARE\Dentrix Dental Systems, Inc.\Dentrix\General\CommonPath

64-bit OS

HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Dentrix Dental Systems, Inc.\Dentrix\General\CommonPath

NOTE: It is possible that the message "Could not grant all rights" will appear in the Dentrix DDP Update window in certain situations when the Create User utility is run. This message indicates that one or more API views or stored procedures that the Create User utility is attempting to grant the user access to do not exist in the installed version of Dentrix. To determine specifically which views and stored procedures the Create User utility could not grant the user access to, check the most recent entry (bottom) of the CreateUser.log stored in the \Doc\Exports\Installs directory on the Dentrix server (see above for location). To see the version of Dentrix in which each API view or stored procedure is available, please review the API Table Views and Stored Procedures list in *Dentrix API - Developer Guide.pdf*.

1.2 Dentrix G6.2 and above:

For Dentrix version G6.2 and above, your account must be registered using the registration DLL method described in this section. Please note that the Create User utility method will no longer work as of G6.2.

1.2.1 Obtaining Key File needed for 'Register' DLL Function

To obtain your Key File needed to register your account using the DENTRIXAPI_RegisterUser function, do the following:

If you have received your 2.0.0.4 version of the Create User utility:

1. On a machine in your test environment, run the Create User utility.

2. When the Data Access Request screen appears as shown in **Figure 1** in this document, browse to the Windows application data temp directory by typing **%temp%** in a Run command box.

3. In the Temp directory, locate the folder that is named starting with **ckz_**. This is the temp directory for the Create User utility.

4. Open the **ckz_** folder and locate the Key file with a .dtxkey file extension. This file should be named according to your Create User utility. For example, if the Create User utility for your account is named *CreateUser_123ABC.exe*, your .dtxkey file will be named **123ABC.dtxkey**.

5. For the registration process, your .dtxkey file will need to be dropped in a location on the customer's local system and then the path to it will need to be passed in for the Register function (an example of a path to a .dtxkey file is *C:\Users\MyUser\AppData\Local\MyApp\123ABC.dtxkey*)

If you have not received your 2.0.0.4 version of the Create User utility:

1. Contact the DDP Support team to request your 2.0.0.4 version of the Create User utility at DDPSupport@Dentrix.com or by logging at ddp.dentrix.com and then clicking the "Contact DDP Support" link on the Resource Center page.

2. Once you have received the utility, follow the steps above to extract your Key file.

1.2.2 Register

The function below (in Dentrix.API.dll) must be called by your DDP-signed application to register your account with Dentrix. The registration process adds your API user account to the local database and grants your user account the appropriate API access rights.

Function Name: DENTRIXAPI_RegisterUser

Availability: Dentrix G6.2 and above

Parameters: Key File Path (STRING)

Returns: -1 = General Failure to load local requirements
0 = Success
1 = User canceled Auth
2 = Invalid Auth request
3 = Invalid File Auth File
4 = Unable to connect to DB
5 = Local admin rights could not be secured
6 = User insertion failed
7 = User access has been revoked
8 = Invalid Certificate

Description: This function must be called by a DDP-signed application in order to register your API user account. The path to your Key file (.dtxkey), found on the local system, must be passed in as the parameter for this function. An example of a path to a .dtxkey file is *C:\Users\MyUser\AppData\Local\MyApp\123ABC.dtxkey*.

Example Code:

```
private const string DtxAPI = "Dentrix.API.dll";
[DllImport(DtxAPI, CharSet = CharSet.Ansi, CallingConvention =
CallingConvention.StdCall)]
internal static extern int DENTRIXAPI_RegisterUser([MarshalAs(UnmanagedType.LPStr)]string
szKeyFilePath);
```

2. Obtaining API Credentials to Connect to the API

Once your account has been registered with Dentrix at a given site, your application will need to use credentials to access the API. This process will vary depending on the version of Dentrix installed as described in the sections below.

2.1 Dentrix G5 to G6.1:

For Dentrix versions G5 to G6.1, the API *username* and *password* received upon registering for the Dentrix Developer Program can be used to connect to the API via an ODBC connection.

2.2. Dentrix G6.2 and above:

For Dentrix version G6.2 and above, it will no longer be possible to use the API username and password to connect to the Dentrix API. The API username and password you have received upon registering for the Dentrix Developer Program will be used to request site/database-specific API credentials using the DLL method described below.

2.2.1 Request API Credentials

Function Name: DENTRIXAPI_GetConnectionString

Availability: Dentrix G6.2 and above

Parameters: API User Id (STRING), API Password (STRING), StringBuilder Object (StringBuilder 512), String Size (INTEGER 512)

Returns: -1 = General Failure to load local requirements
                 0 = Success

Description: This function returns a connection string (with the site-specific API username and password) for an account. Please note that the StringBuilder Object must be initialized with a maximum capacity of 512 characters. For an example of StringBuilder Object code and the 'GetConnectionString' function in use, see *QueryHelper.cs* found in the 'Dentrix SQL Browser Source\Helpers' folder in *DentrixSDK_2.2.zip*.

Example Code:

```
[DllImport(DtxAPI, CharSet = CharSet.Ansi, CallingConvention =
CallingConvention.StdCall)]
internal static extern void
DENTRIXAPI_GetConnectionString([MarshalAs(UnmanagedType.LPStr)]string szUserId,
[MarshalAs(UnmanagedType.LPStr)]string szPassword, StringBuilder szConnectionsString, int
ConnectionStringSize); //G5+ available
```

3. Signing your Application

In order for your application to successfully request and receive API credentials, it must be digitally signed with the DDP certificate. To request the DDP Certificate file (*DDPCode.pfx*) and corresponding private key to sign your application(s), contact the DDP Support team at DDPSupport@Dentrix.com or by logging at ddp.dentrix.com and then clicking the "Contact DDP Support" link on the Resource Center page.