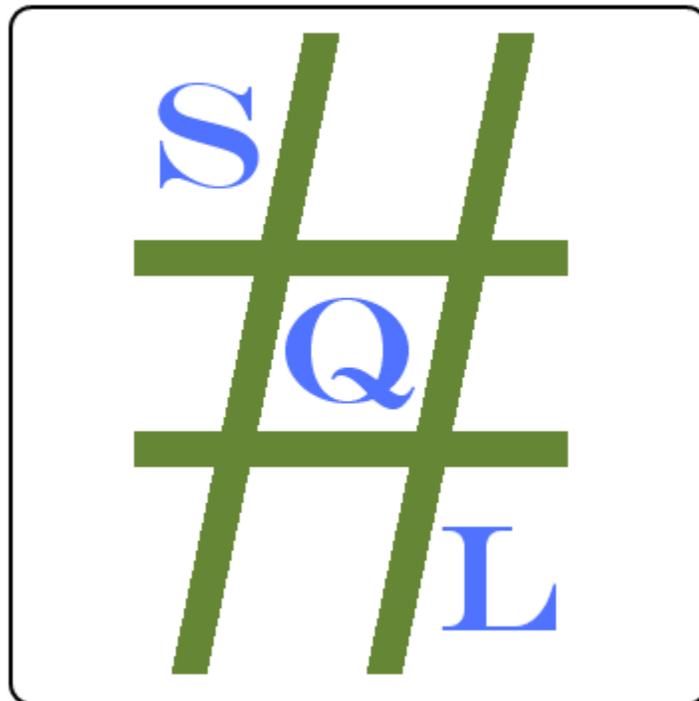


SQL#

EXPANDING THE CAPABILITIES OF T-SQL



HOW TO SET UP TWITTER FOR SQL#

May 19th, 2014

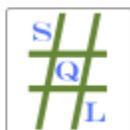
Now that Twitter (as of August 31st, 2010) requires OAuth authentication, applications can no longer pass in Username's and Password. The goal of OAuth is to increase security by having the user's login credentials only known to the main site – Twitter in this case. In order to communicate with Twitter now you must create a Twitter Application which will give you an API Key and API Secret to identify your Application by. Twitter Users now have credentials specific to each application known as the AccessToken (similar to Username) and AccessTokenSecret (similar to Password). All four values – API Key, API Secret, AccessToken, and AccessTokenSecret – need to be sent to Twitter in place of what used to be the Username and Password values.

Most users of SQL# Twitter functions only access Twitter for their own account. In this case the above information is all you need to know. However, some people need to send in their customers' UserNames and Passwords and this no longer works as described above since the AccessToken and AccessTokenSecret are only for the User that created the Application. In this case you need to use xAuth which will allow you to translate other peoples' UserNames and Passwords for your API Key and API Secret into the AccessToken and AccessTokenSecret for your Application. While SQL# does have an xAuth function, be aware that Twitter grants xAuth access on a per-Application basis and is very careful regarding whom they give xAuth access to. If you need this level of access, please contact Twitter. According to the Twitter xAuth page:

xAuth provides a way for desktop and mobile applications to exchange a username and password for an OAuth access token. Once the access token is retrieved, xAuth-enabled developers should dispose of the login and password corresponding to the user.

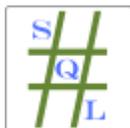
xAuth access is restricted to approved applications. If your application is a desktop or mobile application and the standard web OAuth flow or PIN-code out-of-band flow is not right for you, send a detailed message to api@twitter.com to request xAuth privileges. Include the name of your application, the consumer key, the application ID (if available), and a summary of how xAuth is best-suited for your application.

If you do request xAuth access from Twitter, be sure to explain that you are using SQL# which runs inside of a database call that has no possibility of user interaction.



Setting up your Twitter Application:

- 1) Go to:
<https://dev.twitter.com/>
- 2) If you are not logged in, use the “Sign in” link at the top:
<https://dev.twitter.com/login>
- 3) Click on your icon drop-down (top menu, right side) and select “My applications”:
<https://apps.twitter.com/>
- 4) Click on the “Create New App” button on the right:
<https://apps.twitter.com/app/new>
- 5) Fill in:
 - a. **Name:** This is what shows up when posting updates just underneath the text of the update, as in:
Date and Time via Application Name
This name needs to be unique within Twitter and if it is not you will be notified when you try to save the Application.
 - b. **Description:** You need to have at least 10 characters here.
 - c. **Website:** This cannot be blank
- 6) Check the “Yes, I agree” checkbox below the “Developer Rules of the Road” and click the “Create your Twitter application” at the bottom.
- 7) You are now directed to your application page with the URL being:
https://apps.twitter.com/app/{your_application_id}
If you need to request xAuth access, this is the ApplicationID they will want.
- 8) Click on the “Permissions” tab.
- 9) Under “Access”, select the “Read, Write and Access direct messages” radio-button and click the “Update settings” button at the bottom. Note: you will get a warning if your Twitter account does not have a mobile number configured in your profile.
- 10) Click on the “API Keys” tab.
- 11) In the top section, “Application settings”, the first two items are the “API key” and “API secret” (previously named “ConsumerKey” and “ConsumerSecret”, respectively). These two values identify your application and are needed for ALL SQL# Twitter functions (whether you use xAuth or not). These values will change if you update the “Access” setting on the “Permissions” tab or if you click the “Regenerate API keys” button in the “Application actions” subsection. Make sure that “Access level” in “Application settings” shows “Read, Write and Access direct messages” and that you are using the current values for the “API key” and “API secret”.
- 12) Scroll down to the “Your access token” section. The first time you come to this section it will be empty outside of a “Token actions” subsection. Click the “Create my access token” button in the “Token actions” subsection.



- 13) Scroll down to the “Your access token” section. If there is no new information in this section then you might need to refresh your browser (it takes a few moments for Twitter to generate the info). The two values shown here – “Access token” and “Access token secret” – are the other two values you need for the SQL# Twitter functions (for most users). Verify that “Access level” in this section shows the same “Read, Write and Access direct messages” value that we used above in the “Application settings” section. If it shows “Read only” you will need to change the “Access” value under the “Permissions” tab and come back here to click on the “Regenerate my access token” button.

SQL# Twitter Examples:

- **In either case, run once:** `EXEC SQL#.SQLsharp_SetSecurity 2, 'SQL#.Twitterizer'`
- **Typical Usage:**

```
DECLARE @APIKey NVARCHAR(100),
        @APISecret NVARCHAR(100),
        @AccessToken NVARCHAR(100),
        @AccessTokenSecret NVARCHAR(100)

SELECT @APIKey = 'aaaaaaaaaaaa',
       @APISecret = 'bbbbbbbbbbbb',
       @AccessToken = '9999999-cccccccccc',
       @AccessTokenSecret = 'ddddddddddddddd'

DECLARE @StatusID BIGINT

SET @StatusID = SQL#.Twitter_Update(@APIKey, @APISecret, @AccessToken,
@AccessTokenSecret, 'test!!!!!!', NULL, NULL, NULL)

SELECT @StatusID
```

- **Usage with xAuth:**

```
DECLARE @APIKey NVARCHAR(100),
        @APISecret NVARCHAR(100),
        @AccessToken NVARCHAR(100),
        @AccessTokenSecret NVARCHAR(100),
        @UserName NVARCHAR(100),
        @Password NVARCHAR(100)

SELECT @APIKey = 'aaaaaaaaaaaa',
       @APISecret = 'bbbbbbbbbbbb'

SELECT @UserName = 'myusername',
       @Password = 'mypassword'

SELECT @AccessToken = xauth.AccessToken,
       @AccessTokenSecret = xauth.AccessTokenSecret
FROM SQL#.Twitter_xAuth(@APIKey, @APISecret, @UserName, @Password) xauth

DECLARE @StatusID BIGINT

SET @StatusID = SQL#.Twitter_Update(@APIKey, @APISecret, @AccessToken,
@AccessTokenSecret, 'test again!!!!!!', null, null, null)

SELECT @StatusID
```

