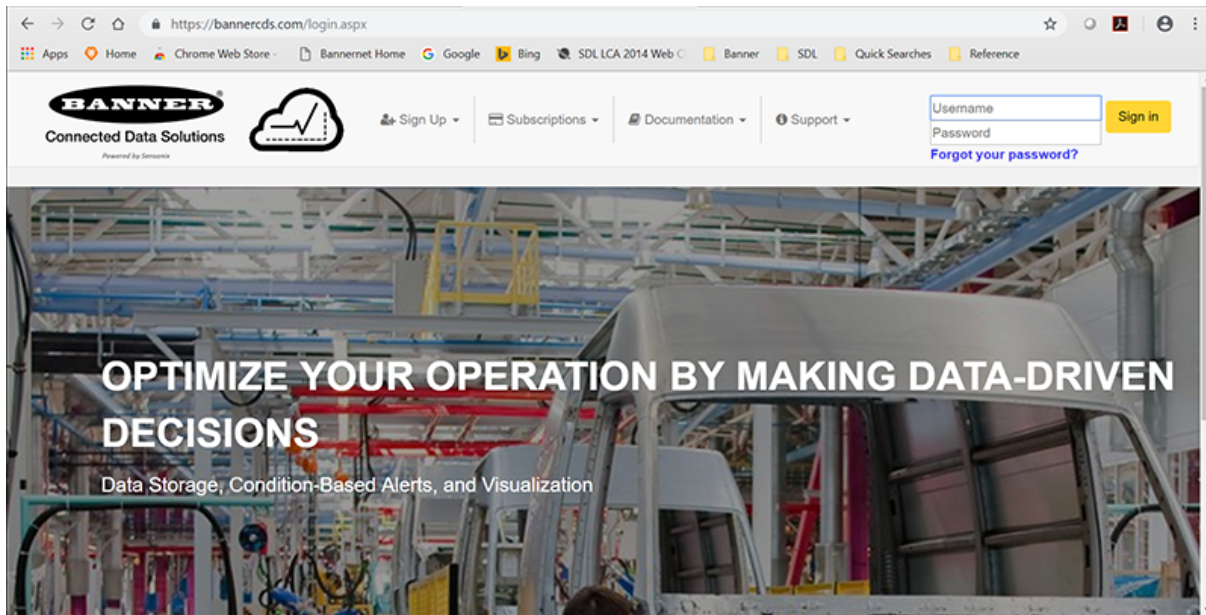# Banner Connected Data Solutions Web Service

Quick Start Guide

Logging into the Web Service

The web server captures data from the DXM using either a cellular connection or an Ethernet connection. Users collect and view the data or update and manage the DXM using a web browser.

A customer service representative will have created a company login and password and emailed it to you when you purchased your subscription service.

Use both the website and the DXM Configuration Tool to set up and configure your data collection. Use Internet Explorer or Google Chrome as your Internet browser and enter the URL: *https://bannercds.com*. The login page appears.
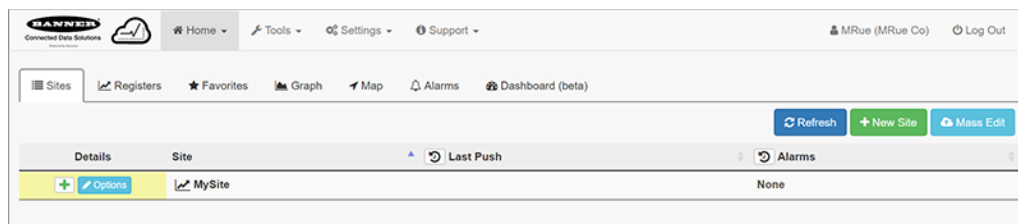

Create a New Site

After you log into the site, follow these steps.

1. Click on **+New Site**.

   Create a new site for each DXM that will be sending data to the web server.
2. Enter a site name.
3. Copy the **Site ID** number shown on the dashboard.

   The Site ID number created by the web server is a required parameter in the configuration setup of the DXM. The Site ID is the address the webserver uses to store the data pushed from the DXM.

Modifying the XML Configuration File

Use the DXM Configuration Tool to configure the operation of the DXM.
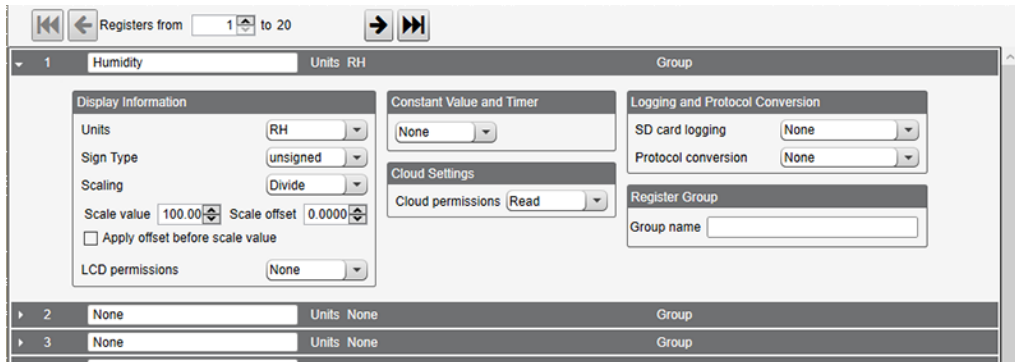
Launch the DXM Configuration Tool software. You can use one of these three screens to modify registers:

- **Local Registers**—Edits individual registers
- **Modify Multiple Registers**—Edits multiple registers at the same time
- **Local Registers in Use**—Edits individual registers

Refer to the *DXM Configuration Tool Instruction Manual* for more details.

Modify Local Registers Individually

This example configuration sets the device to push register values to the web server.

1. Go to the **Local Registers** > **Local Register Configuration** screen.

   The local registers are a pool of integer and floating point registers that can be used by the controller to save data that was created, store data from external devices, or store basic constants. The local registers are where the user defines the data sent to the web server.

   This screen shows how each local register is defined.
2. Click on the down arrow next to the first line for Local Register 1.
   The parameters for Local Register 1 display.
3. To push the register values to the web server, set the **Cloud Permissions** to read.

   If the **Cloud Permissions** are set to Read, the web server only views data from the device and cannot write data to the device. If the permissions are set to Write, the web server only writes to the device and cannot read the data. If the permissions are set to Read/Write, the web server can read the data from the device and write to the device from the web.
4. Set the **LCD Permissions** to **Read**.
   This allows this **Local Register** data to be displayed on the DXM LCD under the **Registers** menu.

Modify Registers Using the Local Registers in Use Screen

Use this screen to modify the parameters of any local registers being used.

1. Go to the **Local Registers** > **Local Registers in Use** screen.
   A list of the local registers being used displays. To add more Local Registers to this tab, name more Local Registers using the **Local Register Configuration** screen.
2. Using the drop-down lists, change the desired parameters.
3. To push register values to the web server, set **Cloud Permissions** to read.

   If **Cloud Permissions** are set to Read, the web server only views data from the device and cannot write data to the device. If the permissions are set to Write, the web server only writes to the device and cannot read the data. If the permissions are set to Read/Write, the web server can read the data from the device and write to the device from the web.

Modify Multiple Registers

Modify a range of registers from the **Local Registers** > **Modify Multiple Registers** screen.

1. Enter the **Starting register** and **Ending register**.
2. Select the value to change using the drop-down list next to each value.
3. Enter the new value in the field provided.
4. To push register values to the web server, set **Cloud Permissions** to read.

   If the **Cloud Permissions** are set to Read, the web server only views data from the device and cannot write data to the device. If the permissions are set to Write, the web server only writes to the device and cannot read the data. If the permissions are set to Read/Write, the web server can read the data from the device and write to the device from the web.
5. Click **Change Registers**.

Configure the Cloud Settings

1. To configure the connection to the web server, go to the **Settings** > **Cloud Services** screen.

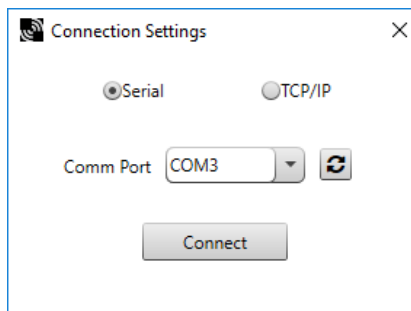2. Copy and paste the **Site ID**.

   The Site ID is that long string of numbers and letters from the Banner Connected Data Solutions website.
3. Verify the **Server Name/IP** is set to `push.bannercds.com` and the **Page** is set to `/push.aspx` for sending to the website. To push to the demo website, set the Server Name/IP to `demopush.sensonix.net`.
4. Set the **Cloud Push Interval** to a value appropriate for your application.

   The **Cloud Push Interval** determines how often the device pushes the data to the web. The faster the push interval, the more data is sent to the site. Cellular plans can only push at an interval of 5 minutes or longer, while Ethernet connections can push at an interval of 1 minute or longer. The **Sample Count** specifies how many times the data is gathered within the **Cloud Push Interval**.

   For example, if the **Cloud Push Interval** is 15 minutes and the **Sample Count** is set to 3, then during each data push (every 15 minutes), 3 samples are sent to the web. This is one sample every 5 minutes.
5. Save the configuration file by going to **File** > **Save**.

   File names must be no more than 30 characters long, and should not contain any spaces or special characters.
6. With a USB cable connected to the device, go to the **Device** > **Connection Settings** menu.
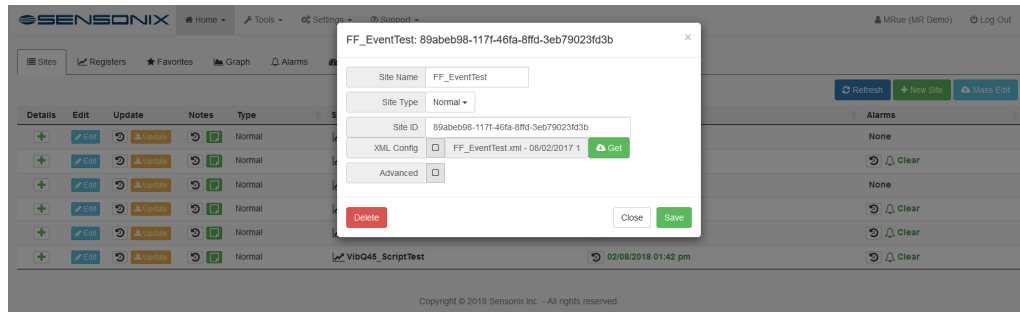7. Select the appropriate **Comm Port** and click **Connect**.

   If multiple comm ports are visible, try each one until the software is able to connect to the device.
8. Go to **Device** > **Send Configuration to the Device** to upload the new XML file.

Upload the XML Configuration File to the Website

To upload an XML configuration file to the website, follow these instructions.

1. At the webserver, select **Home** > **Sites** and click **Edit**.
2. Select **XML Config**.

3. Click **Choose File**. Select the file that was just updated to the DXM and click **Save**.
   After the XML file is loaded into the webserver, the webserver uses the register names and configurations defined in the configuration file.
4. Click on the **Site Name** link, or go to the **Home** > **Registers** screen, to go to the configured registers to see the values uploaded by the DXM.
   The same XML configuration files is now loaded on both the DXM and the Website. After some time, the data should be seen on the website.

Web Services Features

For more information on each of these features, see the *Banner CDS Web Services Instruction Manual*.

View Graph of Individual Registers—View a graph of register values over time.

Compare Graphs of Multiple Registers—Compare two or more register values on the same time graph.

Set Alarms—Set alarms when a register reaches or is compared to a certain numerical value. Alarms can also be used for connectivity problems, MAC alerts, geofence alerts, or register limits. If an alarm is activated, emails can be sent automatically to preset addresses.

Create Spreadsheet Tables—Create data tables to view numbers in a spreadsheet-style format.

Create FTP Backups or Download Data for Backup—Back up registers, upload logs, alarms, updates, and audits to an FTP address that can be accessed with a username and password created by the user.

Use Log Viewer for Viewing Past Data—Display graphs of data logged to the SD card, backed up previously to an FTP site, or downloaded.

Updating Script or XML via Web—Download an XML file from the DXM or upload a new XML to the DXM without having the device connected to a computer via USB.

Write to Registers via Website—Set Cloud Permissions to Write or Read/Write in the DXM Configuration to write to the DXM from the website. Instead of using the LCD on the DXM or waiting for an input value, users can write certain register values directly to the DXM from the cloud site.

Create New Companies and Users—This feature is only available with certain subscriptions. Limits may be placed on the number of companies or users a subscription can have.

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