

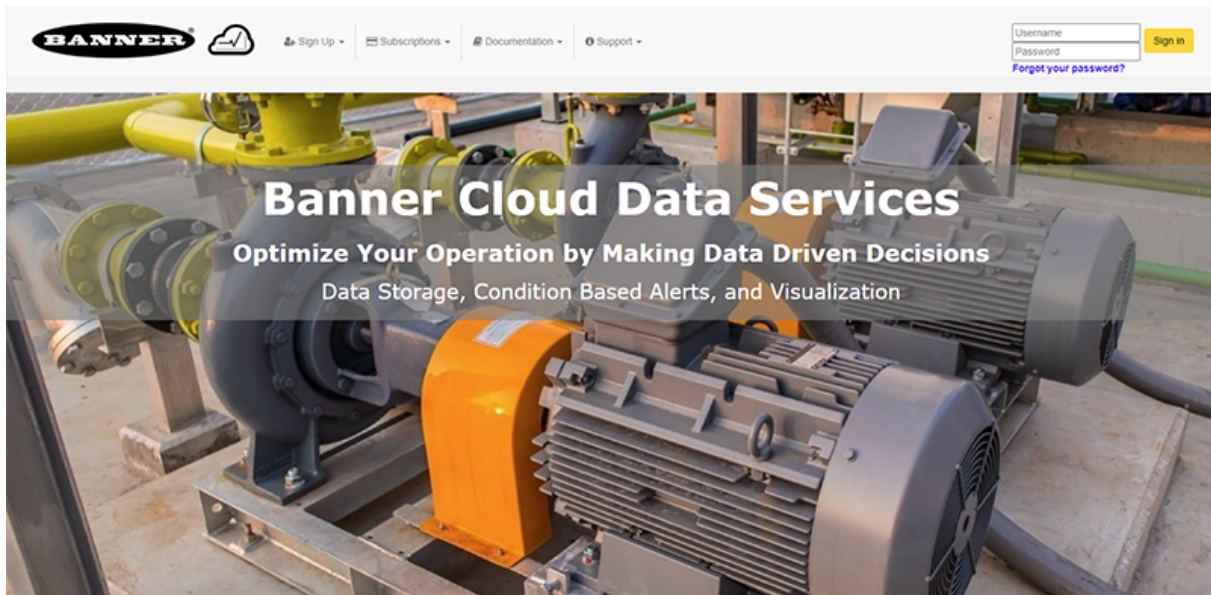
Quick Start Guide

Logging into the Web Service

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

Within a few minutes of your purchase, you will receive an email with your authorization code and details regarding the data subscription service. If the authorization code is not received within 10 minutes, please check your spam folder or contact Banner Engineering at 1-888-373-6767 to obtain the code.

Use both the website and the DXM Configuration Software to set up and configure your data collection. Use the latest version of your browser (Google Chrome is recommended) and enter the URL: <https://bannercds.com>. The login page appears.



Create an Account

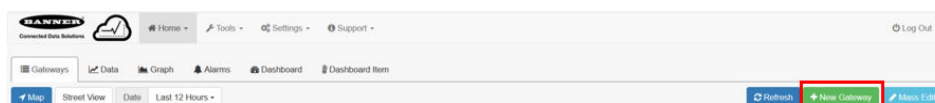
Follow these steps to create an account.

1. Click on **Sign Up**.
2. Click on **Enter Authorization Code and Create Account**.
3. A prompt will appear requesting the **Authorization Code** that was delivered in an email, an **Email** address, **Company** name, **User Name**, and **Password**.
4. Click **Sign Up** and agree to the Terms & Conditions when prompted.

Create a New Gateway

After you log into the Banner Cloud Data Services website, the **Gateway** screen displays. Follow these steps to create a new monitoring site.

1. Click on **+New Gateway**.
Create a new Gateway/site for each device that will be sending data to the web server.



A **Create New Gateway** prompt appears.

2. Verify **Traditional** is selected for the **Configuration**.



3. Enter a site name.
4. Click **Create**.
The Gateway/Site appears in the listing of devices on the Gateways screen.
5. Click **Edit Gateway** (pencil icon) next to your Gateway/Site name.
The Gateway detail window appears.
6. Copy the **Site ID** number located at the top of this window.
The Site ID number created by the web server is a required parameter in the configuration of the DXM Controller. The Site ID is the address the webserver uses to store the data pushed from the DXM Controller.
7. Click **Save**.

Modifying the XML Configuration File

Use the DXM Configuration Software to configure the operation of the DXM Controller.

Launch the DXM Configuration Software 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 Software Instruction Manual](#) for more details.

Edit 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 > Edit Register** section of the bottom of the screen.
A list of the local registers being used displays.
2. Under the **Selected Register** box, select the register to define or modify. You may select the register by using the up/down arrows, directly entering a register number into the field, or clicking within the corresponding row in the **Local Registers in Use** table.
Only Local Registers that have already been changed from their default configuration are displayed in the Local Registers In Use table.
3. Using the drop-down lists, assign a name, register group, change the units, or make other configuration changes to this register.
4. 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.

The changes are automatically applied within the software, not the XML file. To change another register, use the up or down arrows to select another register number. To save these changes to the XML file, go to **File > Save**.

Modify Multiple Registers

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

Select which parameter fields to modify. Most parameters have three selections.

- Unchanged—no changes
- Default—change to default settings
- Set—modify parameter. Other selections will appear based on the parameter.

Figure 1. 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 **Modify Registers** to save and apply the changes.

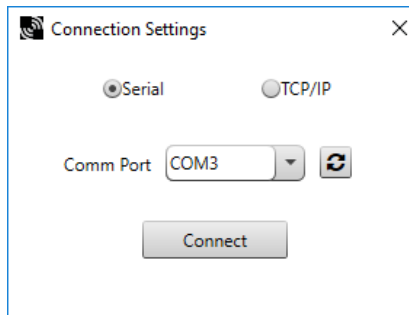
Configure the Cloud Settings

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

The screenshot shows the 'Cloud Services' configuration page. At the top, there are tabs for 'System', 'Cloud Services', 'Ethernet', 'Notifications', 'Logging', 'Scripting', and 'Administration'. Below the tabs, there is a checkbox for 'Show advanced settings' which is checked. The page is divided into several sections:

- Network Interface:** 'Push interface' is set to 'Ethernet' and 'Ethernet retries per push interval' is set to 5.
- Cloud Push:** 'Cloud push interval' is set to 'None', 'Push packet format' is 'Default', 'Apply scale and offset to push data' is unchecked, 'Sample count' is 1, and 'Push port' is 80. 'Print push debug messages to serial console' is unchecked.
- HTTPS:** 'Use HTTPS' is unchecked. Fields for 'Certificate CN', 'Certificate File', 'Private Key File', and 'Root CA File' are present with 'Select' buttons.
- Web Server:** 'Server name / IP' is 'push.bannercds.com', 'Page / Topic' is '/push.aspx', 'Host header' is empty, and 'Gateway ID is' is 'GUID'. A 'Clear' button is next to a GUID field containing '00000000-0000-0000-0000-000000000000'. There is a 'Custom HTTP Headers' section.
- Push Options:** 'Include XML GUID in first push' and 'Include serial number in pushes' are both checked.
- Web Server Authentication:** 'Require Authentication' is unchecked. Fields for 'Username' and 'Password' are present, along with a 'Send Authentication' button.

2. Copy and paste the **Site ID**.
The Site ID is that long string of numbers and letters from the Banner Cloud Data Services 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

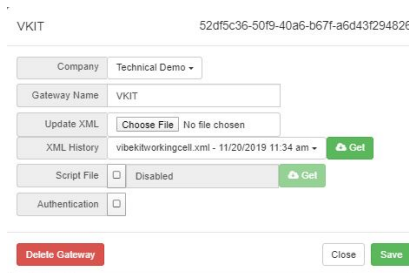
To upload an XML configuration file to the website, follow these instructions.

1. At the webserver, select the **Home** screen.



2. On the row displaying your new site, click the **Edit Gateway** (pencil) icon.
3. Select **Update XML**.
4. Click **Choose File** and select the file that was just updated to the DXM and click **Save**.

Figure 2. Example file selection screen that may not represent your specific kit



After the XML file is loaded into the webserver, the webserver uses the register names and configurations defined in the configuration file.

5. Click on the **Site Name** link to go to the configured registers to see the values uploaded by the DXM Controller. The same XML configuration files is now loaded on both the DXM Controller and the Website. After some time, the data should be seen on the website.

Completing these steps creates continuity between the site created on the website with the DXM used in the field. The DXM pushes data to the website, which can be viewed at any time.

Refer to the [Banner Cloud Data Services Instruction Manual](#) to review all the features available for monitoring, comparing data, and establishing warnings/alarms on the website. To access a demo version of the website please contact your local Banner distributor and follow the instructions in the technical note: [Connecting to the Banner Cloud Data Services Demo Site](#) for modified instructions on how to send data to the demo site.

Web Services Features

For more information on each of these features, see the [Banner Cloud Data Services \(CDS\) Instruction Manual](#).

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

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.

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.

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

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.

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.

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.

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

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.

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