Software guide

Totalflow Web Interface
Installation and Configuration

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1   Overview

ABB Totalflow Web Interface (TWI) is developed to enable users to browse, monitor, and update various configuration and statistical values of the Totalflow devices, using a web browser (Figure 1).

The TWI design is a system-wide solution. What this means to the user is that the capability exists to handle an operation in its entirety; from the overall facility to the individual components that comprise the facility. ABB Totalflow has adopted a three-tiered design approach to enable users to gain both a system-wide perspective of their operations, and also a component-wide perspective that looks at individual segments of the operations as a whole.

The three-tiered design approach starts at the facility level. The facility is the entirety of the operation and all that the facility encompasses (Figure 2). From this high-level view, the TWI enables users to further examine the facility by showing all sub-facilities that make up the facility whole.

A sub-facility can be viewed as similar components, such as separators, plunger lifts, etc., that have been grouped together. The TWI gives users the ability to view, monitor, and manage these sub-facilities as individual components. Using this method, users can affect certain items without impacting the facility as a whole. From the sub-facility view, users can drill down further to view the stations that individually comprise the sub-facility. These stations can be wells, tanks, or other individual components that are gathered in the sub-facility.

The TWI provides the user with monitoring and management capabilities from a facility view, a sub-facility view, and/or an individual station view. In this way, the scope of the TWI allows the user to view every facet of the operation.
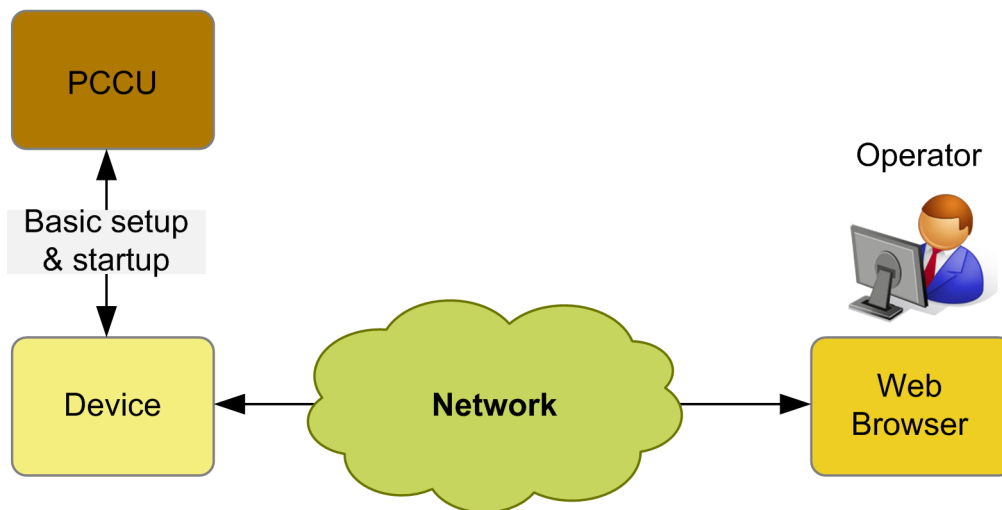
Figure 1: TWI system overview

Figure 2: Facility screen

1.1 How to use this guide

This document instructs the user that is familiar using PCCU Software and Totalflow Devices, how to setup and operate the ABB Totalflow TWI. These basic steps are required to initially set up the TWI and connect to a Totalflow Device.

1.2 Additional resources

Additional publications for TWI are available for free download from www.abb.com/totalflow:

TWI Help file technical reference	ML/2105166
TWI: The next generation user interface sales sheet	SS_2101159_TWI

Additionally, TWI Help files are available via:

– Customer Document Index DVD shipped with some orders: Insert the DVD into the laptop's drive. Select "Installation & Operation Manuals" from the main screen and locate the appropriate material in PDF format.

– PCCU software: PCCU > Help >TWI Help.

– TWI Operator CD: Click on TWI Help button to install help files on your local PC/Laptop

1.3 Assumptions

− Device needs **TFWeb Server** application (Web-enabled flash) installed.

− Device needs **Facility Management** application instantiated.

− Device has connectivity using PCCU.

− Device's Ethernet / network interface is configured.

− Device has a valid IP address.

− Device applications are configured.

1.4 Requirements (pre-requisites)

1.4.1 User interface

PCCU version 7.28 or later is required for startup configuration.

1.4.2 Client (browser)

Table 1 shows web browsers currently supported.

Table 1: Supported browsers

Browser	Version
Internet Explorer (IE)	9.0, 10 or later
Firefox	5.0 or later
Chrome	14.0 or later
Safari	5.0 or later

1.4.3 XSeries G4 (XRC/XFC)

For each XFC G4 (XSeries Flow Computer) and XRC G4 (XSeries Remote Controller), there are two different file installation packages provided. One package includes the **flash and web pages** and the other the **web pages only**. For this initial startup, both the flash and web package are required to be installed.

Ensure to download the software package that is specific for the device type, and also note that the 32 MB Engine Card is installed and is the proper version (Table 2).

Table 2: Device requirements

Device type	Board part#	Engine card version	Flash version
XFC US	2103328-001	2103639-003	2105151-001 or later
XFC SU	2103328-001	2103639-003	2105152-001 or later
XRC US	2103329-001	2103639-003	2105153-001 or later
XRC SU	2103329-001	2103639-003	2105154-001 or later

1.5 TFWeb Server application

1.5.1 Application description (principle of operation)

The block diagram shows the main components of the application (Figure 3).
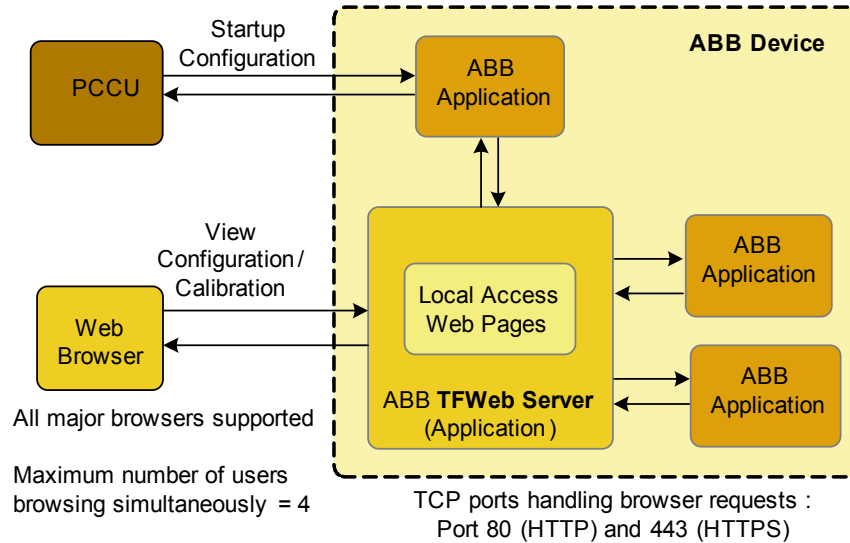

Figure 3: General overview of the TWI operation

1.5.2 Procedure overview

1. XSeries device configuration (using PCCU)

   a) Connect to Totalflow with PCCU.

   b) Load appropriate web-enabled flash (Table 2).

   c) Install applications in Totalflow.

   d) Setup IP address.

Note: It should be noted that the user is not able to add applications while using the TWI system.

2. Client (Browser) configuration

   a) Configure browser and ensure browser is a supported version.

   b) Test/verify connectivity from web server to device.

Note: Web package contains screens the user will view when connecting via the browser.

   c) Add webpage package, using Web Interface, to upload web packages onto the device.

1.5.3 Webpages functionality (screens)

The following lists the many applications and screens supported by the TWI (Table 3). For information about each of these screens go to the **Help** files tab, once connected to the Totalflow device.

Table 3: Screen/Applications for webpages functionality

Screen/Application	Screen/Application
About	PID
AGA3	Plunger
AGA7	Plunger SU
AGA3 SU	Pulse Accumulator
AGA7 SU	Shutdown
Alarm	Station App
Analysis Trend	Station Dashboard
API Liquid SU	Sub-facility Dashboard
Coriolis Interface	Tanks
Coriolis SU	Therms Master
Data Points	Therms Slave
Deployment	Trends
Events	Unsupported Browser
Facility and Station Configuration	User Management
Facility Dashboard	Valve Controller
Facility Management	VCONE
Gas Lift	VCONE SU
IO App	Web Server Configuration
Login	XMV

2   Installation and configuration of Web application on XSeries

2.1   Verify PCCU connection and set up Expert view

1. Connect to the XFC local port or via the network.
2. Start PCCU.
3. Click on **Entry** button. If connection is successful (PCCU main screen displays).
4. Click on **View** on the top menu.
5. Select **Expert** from dropdown menu. A warning dialog box will request that you answer **Yes** to continue to **Expert** mode.
6. Click **Yes**.

2.2   Backup configuration (station) files

If the device has been operational or the initial file configuration has been completed, back up the configuration and use **Save and Restore** configuration.

2.3   Upgrade device flash with PCCU

The unit requires the proper version of Flash software. Follow this procedure to update the Flash. Since this is a first-time installation, the Totalflow device must be configured first before attempting connection by the TWI. PCCU is also further needed for configuration changes or additions required to each application setup. The TWI's main function is that of an interface for operations. Any configuration changes made while performing this setup must be backed up using normal save/restore procedures.

1. Ensure Totalflow device communicates with computer or network.
2. Download the required Flash package onto the laptop or system (Table 4).

Table 4: Flash requirements

Device Type	Flash Package
XFC US	2105151-001EX.xfc32 or later
XFC SU	2105152-001EX.xfc32 or later
XRC US	2105153-001EX.xrc32 or later
XRC SU	2105154-001EX.xrc32 or later

3. Upload Flash package to Totalflow device.
4. Verify Totalflow device has proper Flash version.

Note: The 32-bit loader option is not available when connected to the unit.

5. Disconnect communication from Totalflow device.
6. Click on 32-bit loader button on PCCU32 toolbar.
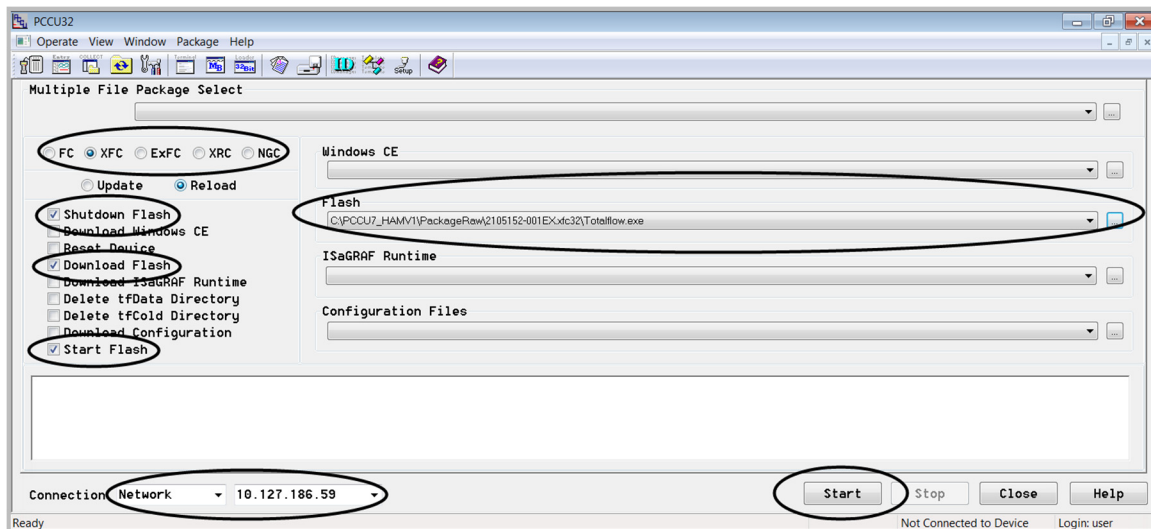7. Select device type radio button in PCCU32 window (Figure 4).

Figure 4: Device type selection

8. Click browse button (**…**) to locate and select the software files.

9. Check the **Shutdown Flash** checkbox (Totalflow.exe).

10. Check the **Download Flash** checkbox (Totalflow.exe).

11. Check the **Start Flash** checkbox (Totalflow.exe).

12. Go to connection and select the interface used for the update. If using Network connection (pull-down menu), select the IP address or DNS name of the device. Upgrade is faster if using Ethernet.

13. Click **Start** button. Observe status messages to verify PCCU is able to connect to the device and begin the upgrade. If the update completes successfully, the message **Operation Complete** displays.

14. Click **Close** button to exit 32-bit loader.

15. Restart communication with Totalflow device.

16. Go to (Station ID)>Registry tab in the tree view and verify that the Flash software P/N has been updated to the correct version.

2.4 Configure IP address for device

The Totalflow G4 allows connections through the Internet. This type of connectivity can be performed one of two ways; direct connection from the PC, or via a network, using a DCHP server and a network ID. A specific IP address must be configured using the following procedure:

1. Connect to Totalflow device.

2. Proceed to station (**ID node**) **> Communications > Network** in the tree view.

3. Enter **Yes** or **No** in the **Enable DHCP** field, depending on the IP Network configuration.

4. Type in device address in **IP Address** field and select **Send** command.

5. Set the new IP address in the device by pushing RESET button on device or remove power to perform a **warm boot**.

2.5 Add the web application

1. Go to station (**ID node**) **> Applications** tab.

2. Click the **Add Application** button.

3. Click the **Application to add** down-arrow to display the drop down list (Figure 5).

4. Locate and select **TFWeb Server** application from the dropdown list. The application is automatically assigned to application number 75**.**
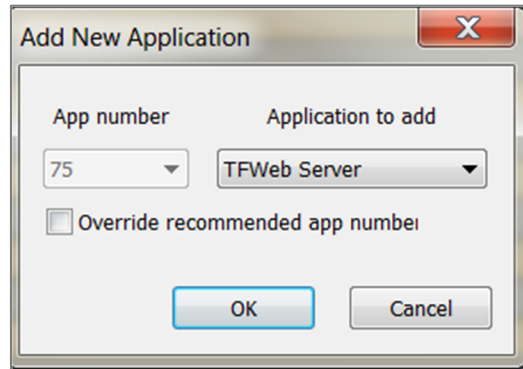

Figure 5: Web application

5. Click the **OK** button to commit the changes.

6. Click re-read to verify the application has been added and it now appears in the application list associated with the correct application number. The application is also added to the configuration tree view on the left and should be added under the **System** applications (Figure 6).
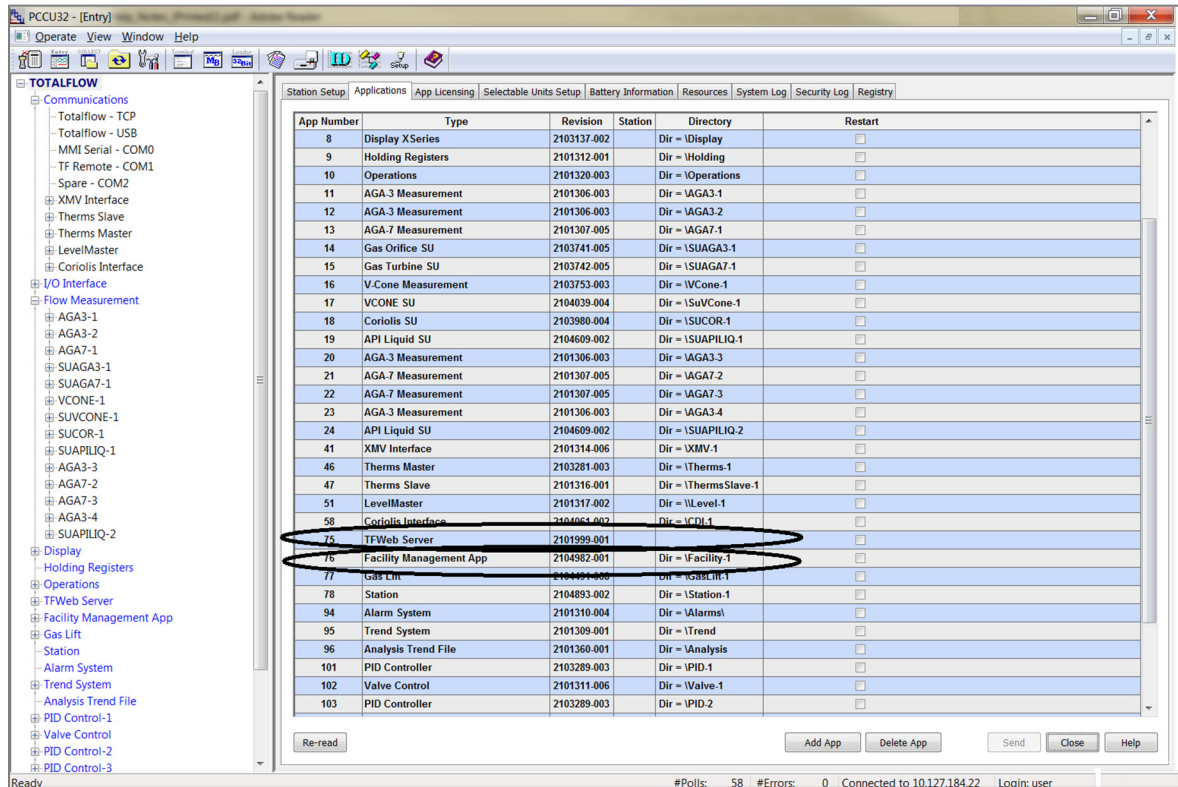

Figure 6: TFWeb server application added successfully

2.6 Add the Facility Management application

1. Go to station (**ID node**) **> Applications** tab.

2. Click the **Add Application** button.

3. Click the **Application to add** down-arrow to display the drop down list.

4. Locate and select **Facility Management App** from the dropdown list (Figure 7). The application maybe assigned to any slot. In this instance we have used application number 76**.**
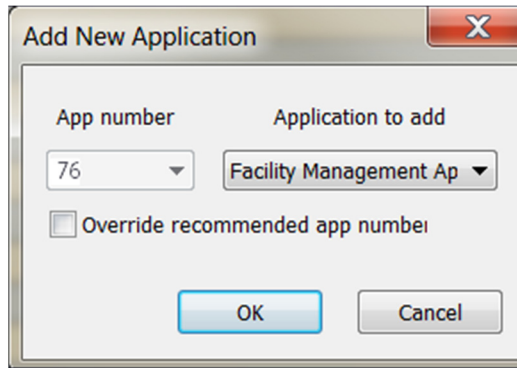

Figure 7: Facility Management application

5. Click the **OK** button to commit the changes.

6. Click re-read to verify the application has been added and it now appears in the application list associated with the correct application number (Figure 6). The application is also added to the configuration tree view on the left and should be added under **System** applications (Figure 6).

2.7 Verify browser initial access to the webserver

1. Choose any of the browsers supported (Table 1). If the browser installed in system is not the correct version, download and install a browser that is.

2. Start the browser.

3. Configure **Cookies** to be **turned on**. Please refer to browser Help for information to get cookies enables, as this task is browser specific.

4. Enter the following URL **http://<device IP>** and press **Enter**. The user login dialog box appears (Figure 8).
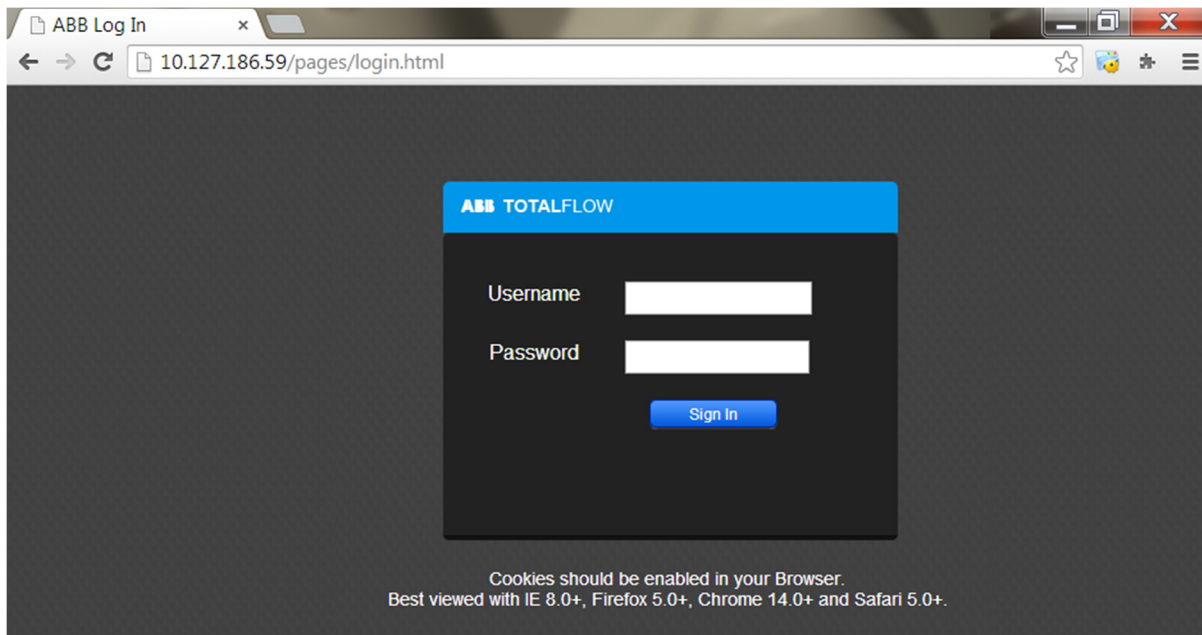
Figure 8: Browser Login

5. Enter the default user credentials (username: **admin**, and password: **admin**). Upon successful login, user is redirected to **http://<device IP>/pages/admin.html**.

2.8 Upload webpage (package)

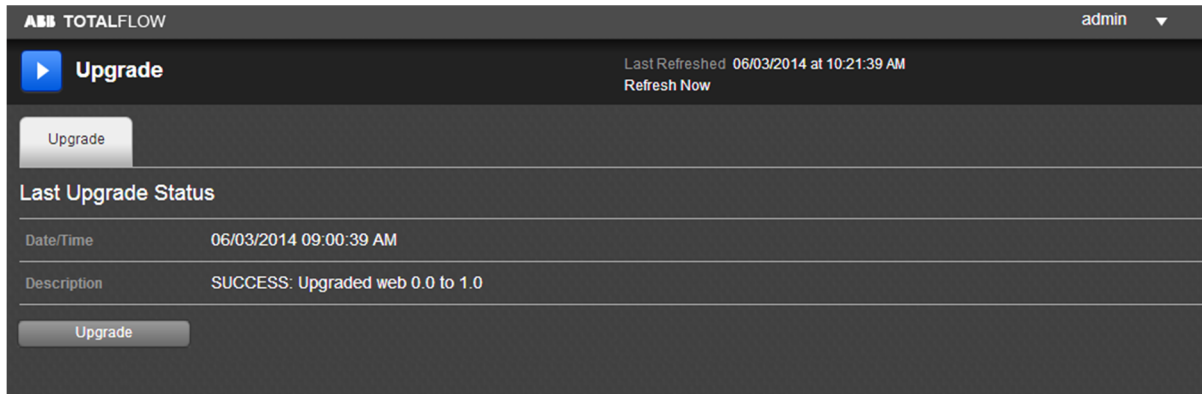1. Following successful login, proceed to **Upgrade** tab, and select **Upgrade** (Figure 9).

Figure 9: Upgrade Webpages

2. Click the **Browse** button to locate the web page packages.

Note: XRC and XFC packages will be different and clearly identified in the file name.

3. Select the correct web page package from Table 5 for your device. Ensure that file extension (*.xrc32 or *.xfc32) coincides with the device type.

Table 5: Web pages packages

Device Type	Flash & Web Package	Web page package
XFC US	2105151-001_TF_2105155-001_Web1.0.xfc32 or later	2105155-001_Web1.0.xfc32 or later
XFC SU	2105152-001_TF_2105155-001_Web1.0.xfc32 or later	2105155-001_Web1.0.xfc32 or later
XRC US	2105153-001_TF_2105155-001_Web1.0.xrc32 or later	2105155-001_Web1.0.xrc32 or later
XRC SU	2105154-001_TF_2105155_001_Web1.0.xrc32 or later	2105155-001_Web1.0.xrc32 or later

4. Select the **Upload** button (Figure 10).
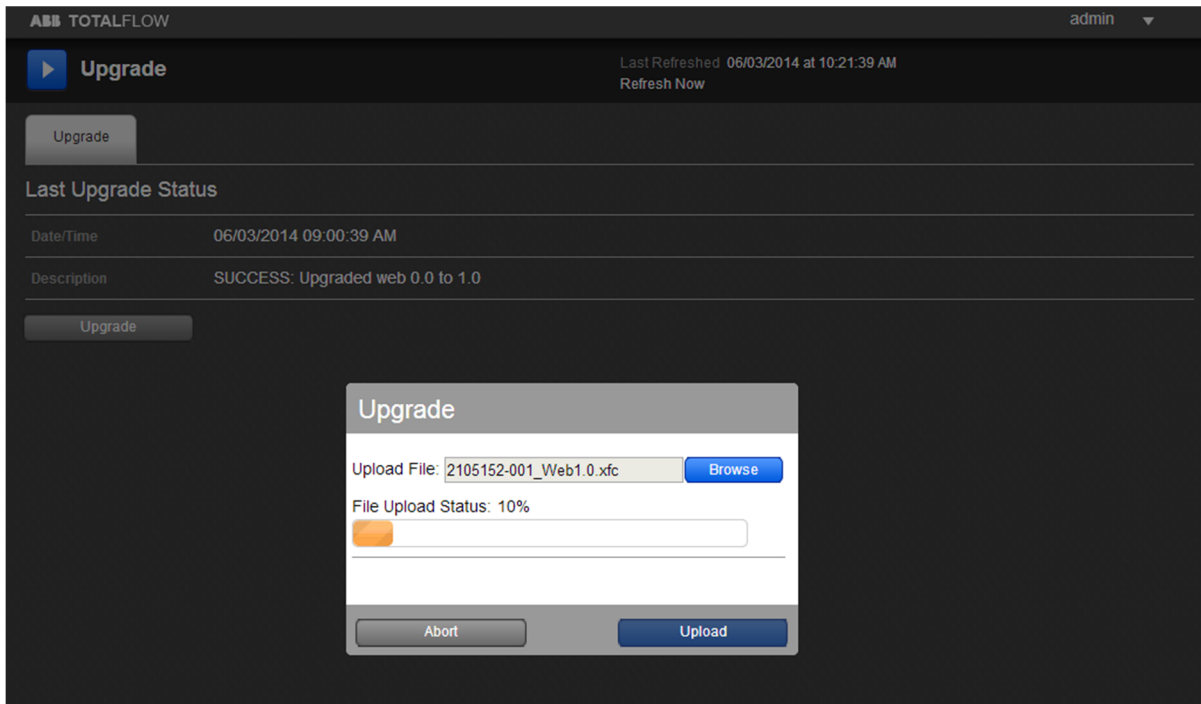
Figure 10: Upgrade Screen

Note: The upload process may take a few minutes to complete. After file upload completes, the file extraction occurs.

5. Verify **File Upload Status**, which indicates the upload completion percentage during the upload process.
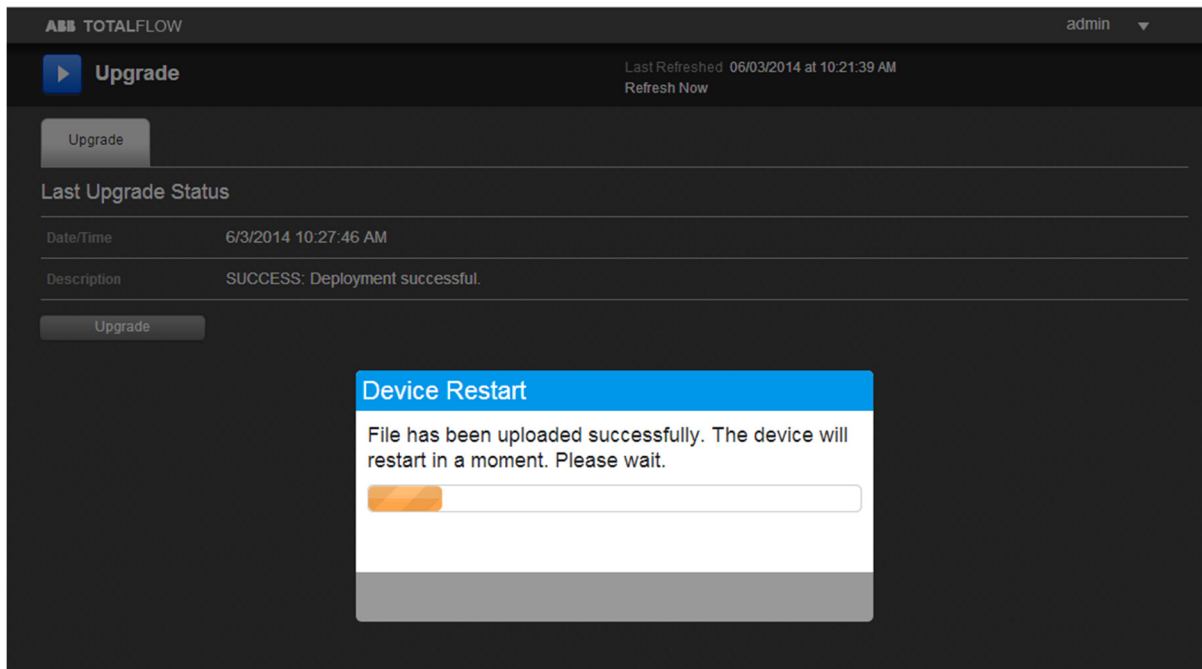6. Verify extraction completes successfully and the device restarts (Figure 11).

Figure 11: Upload Success

7. Following a successful restart, the browser redirects to a page with a message to clear the cache (Figure 12). This enables access to just uploaded web pages.
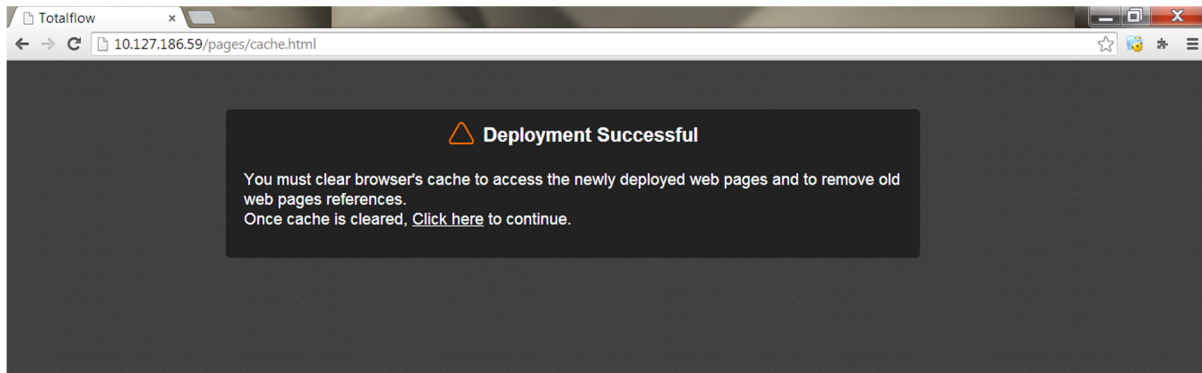

Figure 12: Clear Cache

Note: If using Mozilla Firefox, proceed to step 9 on page 17.

8. Clear the Internet Explorer browser cache, when using Internet Explorer:

   a) Select **Tools > Internet Options** from Internet Explorer main menu to display **Internet Options** popup box (Figure 13).

   b) Select **Delete** button under **Browsing history** to display **Delete Browsing History** popup box (Figure 13).

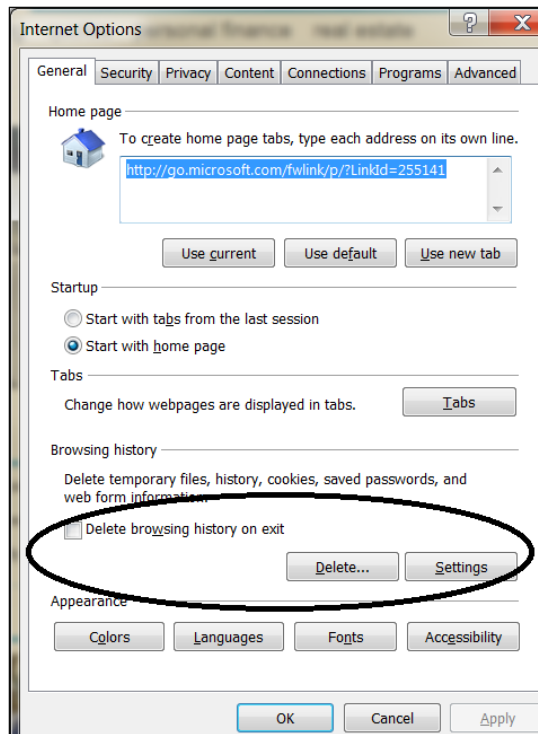   c) Check all checkboxes as shown in Figure 14 and select **Delete** button.
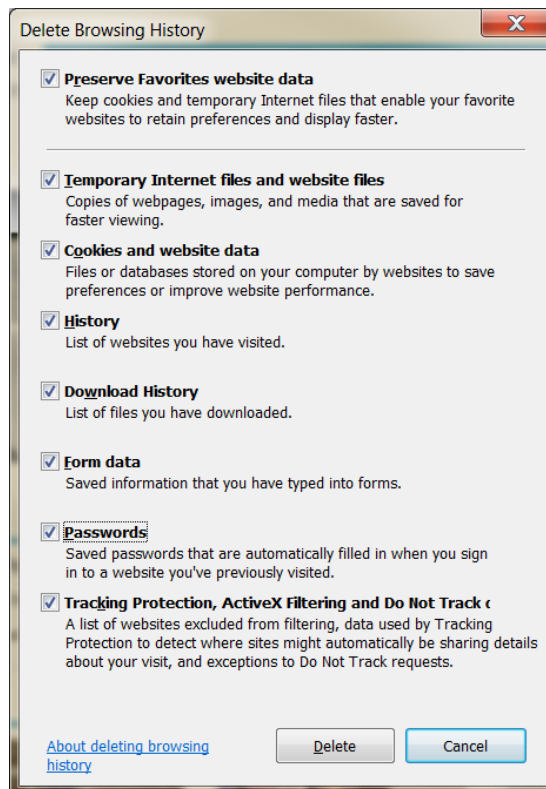
Figure 13: Internet Options popup box

Figure 14: Delete Browsing History popup box

9. Clear Firefox browsing history, when using Mozilla Firefox:

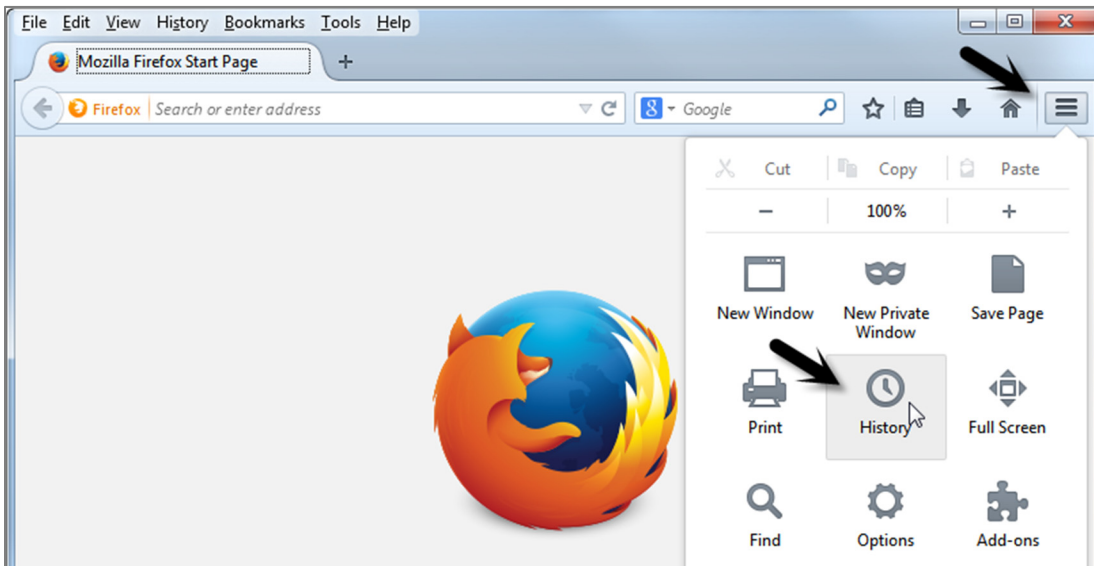   a) Click **Menu** button at top-right corner of Firefox window to display menu (Figure 15).

Figure 15: Firefox menu

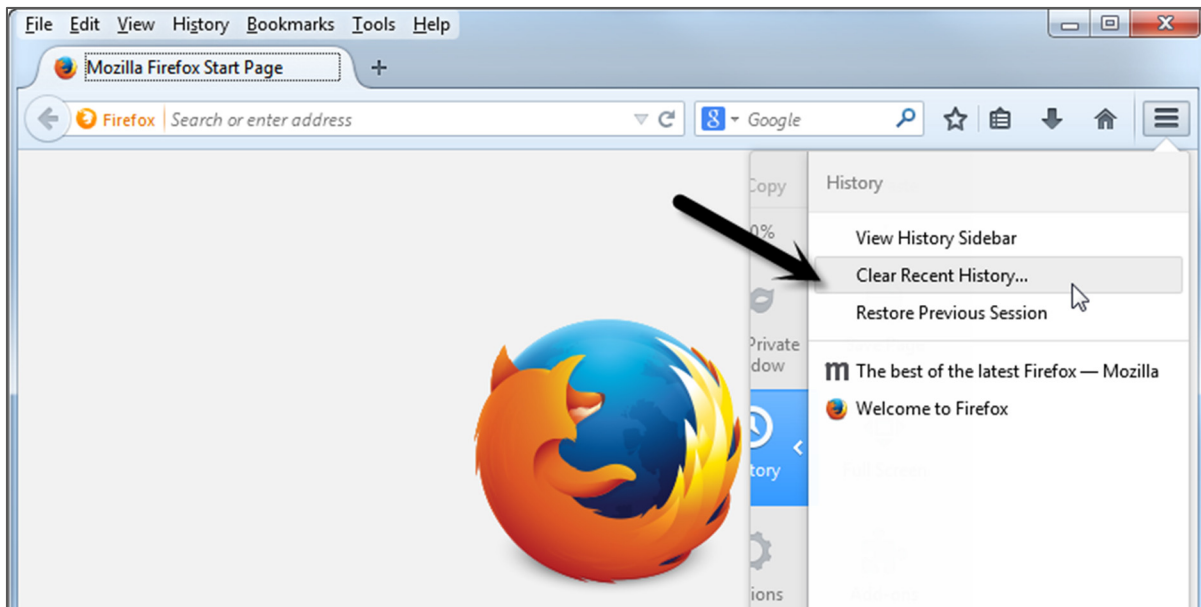b) Select **History > Clear Recent History** to display Clear All History popup box (Figure 16).

Figure 16: Firefox History submenu

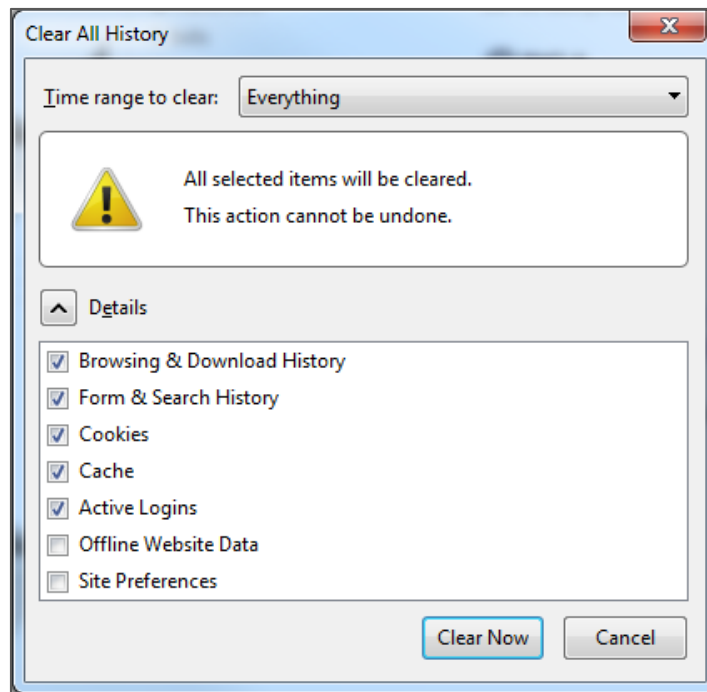c) Select **Clear Recent History** from menu. **Clear All History** popup box displays (Figure 17).

Figure 17: Clear All History popup box

d) Select **Time range to clear** to **Everything**.

e) Click appropriate checkboxes and select **Clear Now** button.

2.9 Verify browser access to the webserver

Once the web application is added and enabled in the device, and the web page package added, verify access to the web pages (screens) to ensure normal operation.

1. Re-insert the device URL **http://<device IP>** and press **Enter**. The URL request is redirected to **http://<device IP>/pages/login.html**.

2. Enter default credentials at the login prompt (**admin**, **admin)**.

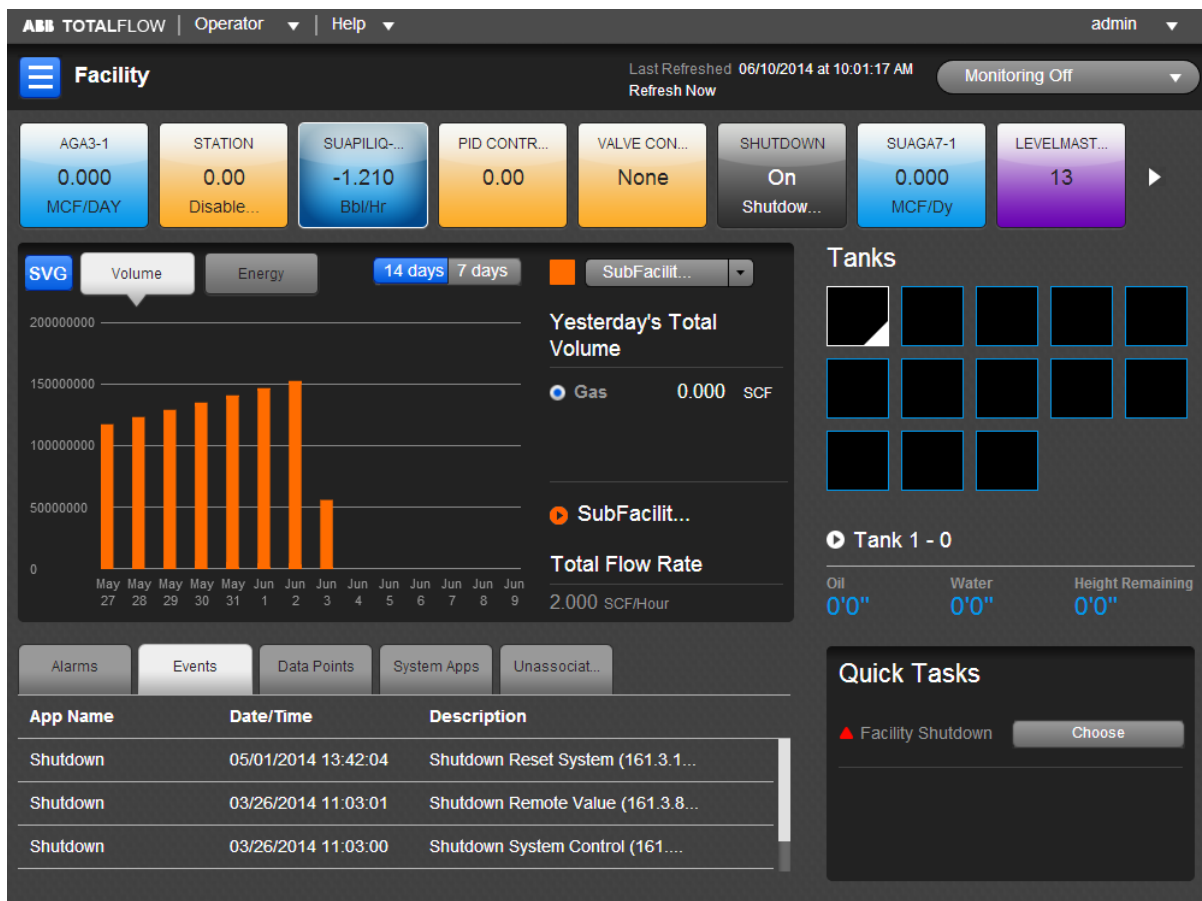3. Verify default **Facility** dashboard home screen displays (Figure 18).

Figure 18: Facility Dashboard

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