Cleo Harmony®

Installation and Configuration Guide

Version 5.8.1



October 2026

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About Cleo Harmony, Cleo VLTrader, and Cleo LexiCom

VersaLex software is the platform that powers the Cleo family of Secure Data Integration (SDI) products—the Cleo LexiCom® application is a desktop-based client solution for communication with major trading networks. The Cleo VLTrader® application is a server-level solution designed to meet the needs of mid-enterprise organizations. The Cleo Harmony® application is tailored for large enterprise needs.

Cleo Technical Support

Standard Cleo Technical Support is available from 7am - 7pm CST, Monday through Friday. Support availability might differ depending on your support package.

Training and a support subscription are required to work with a Cleo technical support analyst for all products, except Cleo LexiCom.

When contacting the Cleo support team, have your contact information, the name of product you are calling about, and your serial number, if available. During the support process we may request additional information (for example, a support bundle) that will vary depending on the type of request or issue.

Requests are handled on a callback basis in the order they are received. The Cleo support answering service or web form will collect your information and your request will be placed in our callback queue.

To contact Cleo Technical Support:

- Use the request form at: https://support.cleo.com/hc/en-us.
- Call us:
  - 1-815-282-7894
  - US (toll free): 1-866-444-CLEO(2536)
  - UK: 02038653439

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Cleo Harmony system requirements and recommendations

Your system must meet certain minimum hardware and software requirements to install and run Cleo Harmony software. Your particular hardware and software needs might vary depending on your operating system and the number of simultaneous connections you expect.

For more information, visit Cleo Harmony 5.8 System Requirements.

Here are some additional recommendations for your system configuration:

- The server should have a static IP address.
- If the server is behind a firewall, appropriate IP addresses and ports must be open based on Cleo Harmony configuration. Only port 5080 is enabled by default and must be open inbound on your firewall to allow access to the web admin UI from outside the firewall (although if using Cleo VLProxy, it offers an alternative to opening inbound ports). All other ports must be explicitly opened from within the product after installation. See Configure your firewall on page 10.
- To ensure optimal performance, the Cleo Harmony product should be run on a dedicated server. For example, Cleo Harmony software should not be run on the same server as a Web Server.
- For Cleo Harmony administration and the corresponding Cleo VLNavigator application, a User Interface (UI) is required, whether the native OS GUI or the web-based UI.
- **For Windows:** The Cleo Harmony software is installed as a Windows service. By default, Windows services run under a local system account and do not see mapped network drives. If you must access a network drive through the Cleo Harmony product, there are several options:
  - Activate an SMB host connection within the product and use URI smb: paths.
  - Use full network path names (UNC paths) and either provide the credentials through Windows/Unix Folders configuration within the product or change the account running the service to one that can access the network drive.
- **For Linux/Unix:** The Cleo Harmony software must be run as a daemon. For information about setting up Cleo Harmony software as a daemon, see *Run as a Unix Daemon* in the Cleo Harmony User Guide.
- **For Linux/Unix:** Because this release of Cleo Harmony uses OpenJDK, if you are using the Web UI on a Unix system, you might need to install the latest `fontconfig`. The command is dependent on the flavor of Unix you are using.

  Examples:

  - Red Hat: `yum install fontconfig`
  - Ubuntu: `apt-get install -y --no-install-recommends libfontconfig1`
- **For Linux:** Cleo Harmony Java processes use random numbers generated by interactions with the computer (for example, mouse movement and keyboard presses). On headless systems, it is possible that the system might use more random numbers than it is able to generate, which might cause the system to run slowly. For information about how to remedy this situation, see *Entropy and Linux systems* in the *Cleo Harmony User Guide*.

Certificate revocation for Cleo Harmony 5.8.1 installers

As a security measure, Cleo is revoking the code-signing certificate used to sign the Cleo Harmony 5.8.1.0 installer. Beginning October 28, 2026, Microsoft Windows will report a certificate revocation error when you run an affected installer. **This is expected.**

The installer itself has not changed. Only the certificate that signed it is being revoked. If you must use an affected installer, verify its checksum before running it.

Recommended action

Install the latest 6.x release instead of version 5.8.1.0. If you are not able to move to 6.x yet, you can continue with 5.8.1.0 after verifying the installer as described below.

Verify an affected installer

If you must install an affected version, verify the installer's SHA-256 checksum against the value listed below. This checksum applies to the Windows 64-bit installer (5.8.1.0-windows64-jre18.exe) and will not match a different installer file. Letter case does not matter when comparing.

Cleo Harmony 5.8.1.0 checksum

```
3c06fff003d1e581e669f08f8bbcfaa952314aebd4cce773d938921c2f0ac3b0
```

To calculate the checksum on Windows:

1. Open PowerShell.
2. Run the following command, replacing the path with the path to the installer:

   ```
   Get-FileHash "C:\path\to\installer.exe" -Algorithm SHA256
   ```
3. Compare the resulting hash with the checksum listed above.

If the checksums do not match, do not run the installer. Contact Cleo Support for assistance.

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Installing and configuring Cleo Harmony

Installing your Cleo software requires that you download and run the installer, and then perform certain tasks depending on which configuration you want.

Downloading the installer

Before you can use the Cleo Harmony software, you must download the installer file to your system.

- Open the email you received from Cleo, and click the download link. The compressed installation file is downloaded to your local system.

Continue with running the installer.

Running the installer

The downloaded installer comes bundled with a Java Runtime Environment (JRE), so Java should not need to be installed on the operating system prior to installing Cleo Harmony and Cleo Harmony will not interfere with other versions of Java that may already be installed on the system.

Note: On both Linux/Unix and Windows, you can run the installer strictly in command line mode by adding `-i console` arguments when you run the installer. For example, on a Linux system:

```
./install.bin -i console
```

Running the Cleo Harmony installer for Windows

- The Cleo Harmony installation program is named `install.exe`. Go to the directory where the installer file resides, double-click `install.exe`, and follow on-screen instructions to complete installation.

Running the Cleo Harmony installer for Linux/Unix

1. Navigate to the directory where the `install.bin` resides.
2. Add the execute permission to `install.bin`:

   ```
   chmod +x ./install.bin
   ```

3. Run the installer command:

   ```
   ./install.bin
   ```

4. Follow the on-screen instructions to complete installation.

Post-installation configuration

After you run the installer, there is some additional configuration you need to perform.

Registering your serial number

For your Cleo Harmony software to be fully operational, you must register your serial number.

The first time you launch the Cleo Harmony native admin UI, it will automatically prompt you to register. The first time you launch the Cleo Harmony web admin UI, it will prompt you for a password (which, by default, is your serial number) and then prompt you to register.

Note: The Cleo Harmony software must be running as a service or daemon to use the web admin UI.

The following is a summary of the steps to register.

1. Launch the Cleo Harmony admin UI.
2. Enter your serial number and contact information.
3. If the registration is successful, a Cleo Harmony temporary license is activated. If you have trouble connecting during the registration process, you might need to configure Cleo Harmony software for a proxy. Click **Help** on the registration panel for instructions on configuring for a proxy.

Once you have purchased and installed the Cleo Harmony product into its final production destination, and before the end of the evaluation period, you should request your **Permanent License**. For a description of how to do this, see *Request a Permanent License* in the *Cleo Harmony User Guide*.

The Cleo Harmony software must be running as a service or daemon to use the web admin UI. Once it is running as a service/daemon, you can access the web admin UI at `http://<Harmony-server>:5080/Harmony`, where *<Harmony-server>* is the name of the computer where Cleo Harmony software is installed. You can also use the server's IP address instead of the server's name.

If the Cleo Harmony software is not already running as a service or daemon, you can temporarily run it for the duration of your session from the command line as follows:

```
Harmonyc -s service –m
```

If port 5080 is already being used by another application, you can specify a different port using the following command line; where *nnnn* is the new port number.

```
Harmonyc -p "Local Listener" -t "<Host><Httpport>nnnn"
```

After changing the port number, restart the Cleo Harmony service/daemon. Then use the new port number when starting the web UI: `http://<Harmony-server>:nnnn/Harmony`.

Configure your firewall

The Cleo Harmony product depends on your firewall configuration, which depends on your connection method and host requirements. Make sure you have configured your hosts before you configure your firewall. Generate the Cleo Harmony TCP/IP Port Usage Report for a description of firewall requirements for the activated and configured host(s). Present the information from this report to your system administrator to verify that your firewall has been configured properly.

1. Start the Cleo Harmony software, if necessary.

2. Configure your usage report. In the web admin UI, go to **Administration > Network > Ports**. In the native UI, go to **Tools > TCP/IP Port Usage**. In the native UI, the Cleo Harmony software displays a dialog box where you can select folders to report on. Select the appropriate folders and then click **Continue**.
3. The Cleo Harmony software displays the report.
4. Click **Save As** to save your report.
5. Review the report with the system administrator responsible for your firewall to make sure your configuration is correct.

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Test your installation

Cleo provides a test host for many of the common protocols. Clone and activate the appropriate test host, then run the test action for that host. A successful result confirms that the firewall is generally configured correctly and that you are ready to test directly with your partner(s).

Perform the following steps in the admin UI:

1. Configure your local listener. It must be fully configured for your protocol of choice. Make sure you have a local certificate defined - either a self-signed certificate or an imported certificate of user choice. See the *Cleo Harmony User Guide* for information about configuring your local listener.
2. Activate the appropriate test host. Right-click the Cleo Test host you want to use on the **Templates** tab within the Cleo Harmony UI and select **Clone and Activate**.
   The test host is added to your **Active** tab.
3. Make sure an outbound connection to `test.cleo.com` is available.
4. On the **Active** tab, expand your test host and run the `test` action.
5. Verify results. Look for a success or error message in the message pane.

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Optional configuration

This section describes some optional configuration tasks.

Customizing your admin UI login page splash image

You can replace the default login page splash image with your own.

Place your custom splash screen in the `conf/images` directory in the Cleo Harmony home directory. The filename must start with *`splash.`* That is, the word, *splash*, followed by a period. For example, `splash.companyABC.png`. Supported formats include JPEG, GIF, and PNG. The image can be no larger than 525px x 340px and no smaller than 250px x 100px.

To see the new splash screen, if you are using the web UI, you must restart the service. If you are using the native UI, you must restart the application.

Naming your installation

You can name your Cleo Harmony installation.

1. In the Cleo Harmony web admin UI, go to **Administration > Network > Synchronization**. In the native admin UI, go to **Configure > Synchronization**.

   The **Synchronization** page appears.
2. On the **Synchronization** page, double-click on the first entry in the sync table (the dot entry), and enter the optional alias.

   Even if you fully synchronize this instance with another (see *Synchronize User Configuration on Multiple Instances* in the *Cleo Harmony User Guide*), the optional alias will remain unique to this instance.

Customizing your Cleo Portal banner and login page graphics

Note: This section applies to the Cleo Harmony and Cleo VLTrader applications only.

You can modify the `custom.css` file to customize the look of your Cleo Portal banner and login page.

1. Navigate to *`<installdir>`*`/webserver/mftportal/styles/` and open `custom.css` in a text editor.
2. Modify the `custom.css` file as necessary.

   Include `#top-banner` items in the `custom.css` to affect the banner and `#Login` items to affect the login page graphics.

For example, to specify `cloud-background.png` as the background image for the login page, copy the image to the webserver/mftportal/ directory and include the following in the custom.css file:

```
#LogIn {
       background-image: url(../cloud-background.png);
}
```

Note: The URL is relative to `webserver/mftportal/styles`.

See Cleo Portal CSS customization parameter reference on page 16 for information about styles you can customize.

3. Save your updates and refresh the Cleo Portal window to see your changes.

Note: If you re-run the installer, the `custom.css` file is reinstalled with the product and you must make your customizations again.

Cleo Portal CSS customization parameter reference

Use these selectors to control the style of the Cleo Portal.

Note: This section applies to the Cleo Harmony and Cleo VLTrader applications only.

Note: Unless otherwise stated, changes to the height, width or text size of any element or attribute are not supported.

Top banner

#top-banner

Controls the style of the top navigation banner.

You can also reference `#top-banner` as `.navbar-default`.

#top-banner .banner-text a

Controls the default style of the navigation labels in the top navigation banner.

#top-banner .banner-text a:hover

Controls the hover style of the navigation labels in the top navigation banner.

#top-banner .banner-text a.active

Controls the style of the active navigation label in the top navigation banner.

#top-banner .banner-text a .icon

Controls the style of top navigation banner icons.

#top-banner .banner-text a.active .icon

Controls the style of the active navigation icon in the top navigation banner.

#top-banner .icon-avatar

Controls the style of the user avatar icon.

#top-banner .icon-avatar:hover

Controls the style of the user avatar icon on hover.

#top-banner .icon-avatar.open

Controls the style of the user avatar icon when user menu is open.

Log in page

#LogIn

Use the element to update the background color and/or image.

#LogIn .login-image

Use this element to update the corporate logo.

#btn-default[:hover, :active]

Use this element to update the **sign in** button.

Main masthead

app.portal .navbar-brand

Use this element to update the corporate logo on the main masthead. You will need to explicitly set the width. Maximum dimensions for a new logo is 200px X 65px.

.navbar-default

Use this element to update the background and border colors.

Buttons

.btn-primary[:active, :hover]

Use this element to update the background and border color of all buttons within Cleo Portal.

Background images

New images do not need to be placed within the Cleo Portal directory. You can place them anywhere on your server, a CDN, or anywhere that will provide a publicly accessible URL.

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Uninstalling your Cleo software

If you encounter problems after installation, it is possible to uninstall your Cleo Harmony software.

Uninstalling Cleo Harmony

Do one of the following:

- **For Windows**: do either of the following:
  - Navigate to the directory in which the Cleo Harmony software is installed and execute the `Uninstall Harmony.exe` program.
  - Use the Windows Control Panel to uninstall the Cleo Harmony software.
- **For Linux/Unix**: Navigate to the directory in which Cleo Harmony software is installed, and then enter the uninstall command as follows:

```
./Uninstall\ Harmony
```