

***Cleo* Dashboards™**

Getting Started with the Cleo Dashboards

Version 3.3.6



August 2021

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Overview

This document describes the relevant system information, processes, and procedures required to install, configure, and uninstall the Cleo Dashboards.

Dashboard Introduction

The Cleo Dashboards provide static and interactive reporting and data analysis capabilities. These capabilities can form part of an integrated end-to-end business integration suite with other applications, utilizing common metadata and providing security and automatic report scheduling.

The Cleo Dashboards provide access to Cleo application and transactional data via an easy-to-use, configurable Web- based interface.

This content can be displayed through pre-defined and/or custom reports, as well as interactive graphs, charts and views. As an example, the interactive EDI Dashboard gives you an intuitive access point to your current Trading Partners/Endpoints, exceptions, message volume, issues, system processes, and other important information – all based within a specified period of time.

The Dashboards provide several pre-defined reports, statistical data views, and Trading Partner/Endpoint details. Using the Dashboard's security interface, Administrative Users can maintain users, roles, menu options, and passwords, as well as enable or disable access to specific reports. This allows you to:

- Efficiently and securely manage many reports
- Manage security for all users
- Interact with reports, including filtering by specified parameters and drilling down on data

System Requirements

Please review the following requirements prior to installing the Cleo Dashboards.

OS Information

Windows

- Windows Server 2019
- Windows Server 2016
- Windows Server 2012 R2

Linux

- Red Hat Enterprise Linux 8
- CentOS v9
- CentOS v8
- SUSE Linux Enterprise v11, 12
- Ubuntu

Resource Information

Resource	Minimum	Recommended
Disk	10GBFree	40GB+
RAM	3GB	4GB+
Processor	2 GHz	2.5 GHz multi-core
OS	64-bit	64-bit

Browser Information

Browser	Version
Mozilla Firefox	3.0 or higher
Google Chrome	8.0 or higher
Microsoft IE	10, 11
Safari (MAC)	4.0 or higher
Adobe Acrobat	7 or higher
Adobe Flash2	11 or higher

Database Support

Cleo Dashboards supports the following databases.

- Postgres
- Oracle (for Harmony reports only)
- MS SQL Server (for Harmony reports only)

Please see Selecting a Data Source on page 14 to learn how to select and configure different data types.

Cleo Products that are compatible with this release

For current compatibility levels between the Dashboards and other Cleo products, please refer to the Cleo Dashboards Release Notes on the Solution Center.

Dashboard Editions

Cleo Dashboards are available in different editions – Standard and Premium - each providing different levels of functionality and usability. This topic describes each, and how to identify the one currently being used.

Edition	Description
Standard	<p>Standard Edition provides the resources needed to view and manage reports and dashboards for Cleo Clarify, Cleo Harmony, or Cleo EEI products. A Standard Edition license is shipped with the Dashboard and provides the following functionality:</p> <ul style="list-style-type: none"> • Pre-defined report library containing multiple reports and dashboards • Filter and search options • Read-only browser-based access • User/Role-based security • Report scheduling
Premium	<p>Premium Edition provides all resources included in Standard, but also supports the ability to connect to your back-end system (or database) using an additional data source, as well as the designing of reports and dashboards using the separate Web Application Design Studio.</p>

For more information on these Editions, please contact your Customer Account Manager.

How to determine the Edition

The bottom left of the Dashboard screen displays Copyright information and a hyper-linked version number. Click the version number link to display an information screen, which shows the edition type.

Default Port Configuration

Port 80 is the default port assigned to the Cleo Dashboards. As long as there are no other resources using this specific port, no action is required. **To change the default port:**

1. Edit the `\mrc\production\m-power\tomcat\conf\server.xml` to reflect the new port;
2. Edit the `mrc_data_store_ip` port property, located in `\mrc\production\m-power\mrcjava\WEB-INF\classes\mrc-runtime.properties`, to point to the new port.

 The above edits will be overwritten as a result of Dashboard updates, so plan accordingly.

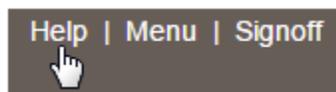
Need Help?

Please refer to the different contacts based on your issue at hand. We are here to help!

For questions on...	Contact
All Cleo products; installation and general usage	International: +1 815-282-7894 US Toll-free: 1-866-444-CLEO (2536) UK: 02038653439 Email: pasupport@cleo.com
For any of these needs for either product: <ul style="list-style-type: none"> • Professional Services • Project Assistance • Questions about product licenses or delivery 	Sales/Customer Account Management: (1.888.334.3986)

Product Help and Documentation

The Dashboard Sign In screen provides a link to the Product Help, which is also available from within the product by clicking the **Help** option at the top-right of the screen.



Please also refer to the *Cleo Dashboards Release Notes* for information on features and enhancements new to this release, as well as details about previous releases and known issues. These Release Notes are available from the Support Portal on www.cleo.com.

Check for updates

Product enhancements and fixes to existing functionality are made available on the Cleo Support Portal. Check for updates regularly.

Help system updates are also available. These updates may cover enhanced procedures, updates on bugs or feature enhancements, and other useful information.

Please contact Support for additional assistance.

Quick Steps to Getting Started

The steps below summarize the basic flow to install, configure, and begin using the Cleo Dashboards.

1. Install the Dashboard
2. Apply your (temp) license
3. Start the Server
4. Open a Web browser
5. Sign In
6. Manage your Data Source

Install the Dashboards

Installation is done through an Install Wizard executable (available via electronic download). Other than choosing the actual location of the install, the process is simple, quick, and automated.

To install on Linux

To install the Dashboard on a Linux OS, open a terminal session with admin/root level permissions, navigate to and run the Dashboard3_Linux install file.

Temporary Licensing

The Cleo Dashboards contain a temporary license which must be applied immediately following installation.

Apply temporary license

Cleo emails a temporary Dashboard license as part of product delivery. Applying the license is quick and easy:

1. Go to the following directory in your Dashboard install:
`\mrc\production\m-power\mrcjava`
Example: C:\CleoDashboard\mrc\production\m-power\mrcjava
2. Place the license file (license.jar) in the *mrcjava* folder.

When a temporary license expires

A permanent license must be obtained through the Support Portal once the temporary license expires. You will know it has expired when you attempt to sign in and:

1. You are unable to sign in, and;
2. A License error displays.

If you do not have the temporary license, or need further assistance with licensing, please contact Customer Support.

Start and Stop the Server

Starting the Dashboards Server is required to use the Cleo Dashboards, and can be accomplished through several methods, described here.

As part of normal installation, you may have selected to have Dashboard server shortcuts created on your desktop (or location of choice), or had them set up as part of the Program Groups menu.

Using Script Commands

If you did not select these methods, you can use batch files (Windows) or shell scripts (Linux) to accomplish the same thing. These files are located in `<Install Directory>\mrc\production\m-power\tomcat\bin`

(For Windows)

- To start the server - *run startup.bat*
- To stop the server - *run shutdown.bat*

(For Linux)

Open a terminal session with admin/root level permissions, and navigate to the `<install/mrc/production/m-power/ tomcat/bin/` directory. Run the following command to start/stop the Dashboard server:

- To start the server - *sh startup.sh*
- To stop the server - *sh shutdown.sh*

Sign In Procedures

This topic describes basic procedures and prerequisites required for sign in.

Prerequisites

These criteria must be met pre-sign in.

- Cleo Dashboards must be successfully licensed and installed.
- The Dashboard server must be started.

Sign in steps

1. Open a Web browser and enter the following URL based on the Cleo product and version you are using with the Dashboard. Note that the specific Cleo product is indicated in the path:

IF using this Cleo Product...	THEN use this URL...
<ul style="list-style-type: none">• Cleo Clarify• Cleo Harmony• CIS Dashboard	http://<server>/CleoDashboard/servlet/CIS.Login
Cleo EEI	http://<server>/CleoDashboard/servlet/EEI.Login
Existing Clarify (EBI v4) users	http://<server>/CleoDashboard/servlet/EBI4.Login

In the URL above, <server> identifies the server to which Cleo Dashboards have been installed.

Users may wish to bookmark this URL.

Once the correct server name is entered, the URL takes you to the Dashboard's Sign In screen.

Note: Web browser cookies should be enabled.

2. From the Sign In screen, enter a username and password.

Default user names and passwords for Cleo products

The *admin user* profile provides both administrative (security management) and report access in the Dashboards. The *user* profile provides report access only.

Admin users may want to change the default passwords to something more secure after initial sign in.

For this system...	This information applies...
Clarify + Harmony integrated environment	User ID = CISAdmin Password = CISAdmin Note: The CISAdmin can create additional data sources for other users to access. User ID = CISUser Password = CISUser Note: When logged in as <i>CISUser</i> , then all Dashboard reports, EDI Reports and Data Transfer Reports are visible.
Clarify v4	User ID = CISTransform Password = CISTransform Note: When logged in as <i>CISTransform</i> , then the EDI Dashboard, EDI Reports, and System Health are visible.
Harmony	User ID = CISTransfer Password = CISTransfer Note: When logged in as <i>CISTransfer</i> , then the CIS Dashboard and all Data Transfer reports are visible.
EEI	Two default users are included: <i>EEIAdmin</i> and <i>EEIUser</i> . User ID = EEIAdmin Password = EEIAdmin User ID = EEIUser Password = EEIUser

Managing Data Sources

Data sources define the connection point that the Dashboards requires before it can access any Cleo application data and produce reports. Data sources can be viewed, copied, edited, etc.

Initial Post-Install Configuration

Default Dashboard installations provide one data source that must be initially configured to connect to your Cleo system. Only an Administrative user can perform these steps.

Overall Process

The process for successful data source setup and configuration is as follows:

1. Sign in as an Administrative user.
2. Go to the *Manage Data Source* option.
3. Update connection settings to point to your environment.
4. Restart the Dashboard Server after making any changes to the Data Source.
5. Select the data source.

While this process applies to all Cleo product data source records, please review the product-specific information below for specific details on connection settings adjustments.

If updating from a previous Dashboard version, please also see information specific to certain product updates on page 18.

Adjusting connection settings for Clarify and Harmony

Before these steps can be completed, make sure the Clarify server has been started.

1. Go to the *Manage Data Source* option.
2. Select the **Update Record** icon  to open the one default record.

The *Data Source Maintenance* screen shows connection information for Cleo's internal database, Web Services, and the optional SAP database (Clarify only). Several fields are already populated and need no further editing. Only fields indicating specific URL paths must be edited to reflect your specific Cleo environment.

3. Edit the *Database URL* field to reflect your Clarify or Harmony environment (and successfully connect).

Change the <localhost> parameter in the database URL to the name or IP Address of the system to which Clarify or Harmony is connected to.

- For Clarify v4, the default port setting is **5432**.

Note: Settings may require adjustment if you've customized the port values on your installation.

4. Edit the *Web Service URL* field.

Change the <localhost> parameter in the URL to the name or IP Address of the system where the Cleo application is installed. An example URL would look like: *http://test_server:5250/dashboard*.

Notes:

- As of v3.3.2, the Web Service URL field supports https.
- Setting may require adjustment if you've customized the port values on your installation.

! For Clarify Server Cluster installs v4.11 (and later), the Web Services url should be provided for *each Server in the Cluster*. Doing so provides effective failover protection. In the example below, there are three server nodes listed:

```
http://<test server 1>:8500,http://<test server 2>:8500,http://<test server 3>:8500
```

Note: the <server> can be defined with IP or hostname.

5. If using the optional SAP report, the same configuration to the URL path must also be made.

Note: User name and password are already populated and should not be edited.

6. When finished all editing, click **Accept** to complete configuration.

Adjusting connection settings for EEI

1. Go to the *Manage Data Source* option.
2. Select the **Update Record** icon  to open the one default record.

The *Data Source Maintenance* screen shows connection information for Cleo's internal database, Web Services, and the optional SAP database (Clarify only). Several fields are already populated and need no further editing. Only fields indicating specific URL paths must be edited to reflect your specific Cleo environment.

3. Edit the *Database URL* field to reflect your EEI environment (and successfully connect).

Change the <system> parameter in the URL to the name or IP Address of the system where the EEI application is installed and change the <library> parameter to the names of the libraries where the Cleo application files reside.

For example:

```
jdbc:as400://<server>;naming=system;libraries=EXT710F  
EXT710;translate binary=true;prompt=false
```

Both libraries in this URL are necessary for the Dashboard to function correctly.

4. Provide a User Name in the *Database user ID* field and password in the *Database user password* fields. Note: User must have authority to the EEI library name as listed in the Database URL field.

Also their profile's initial library list must contain the EEI programs, files and message queue libraries.

5. Perform the same step for the Web Service URL and user ID/password.

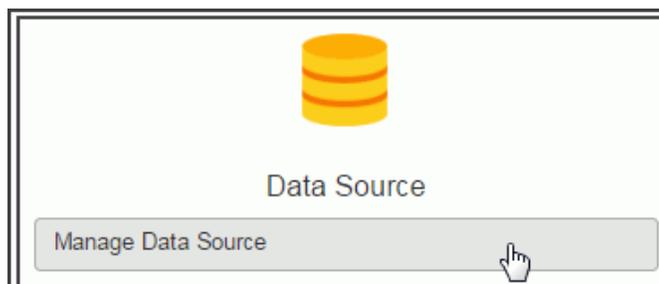
Selecting a Data Source

Data sources define the connection point that the Dashboards requires before it can access any Cleo application data and produce reports. Before viewing reports, ***a data source must be selected.***

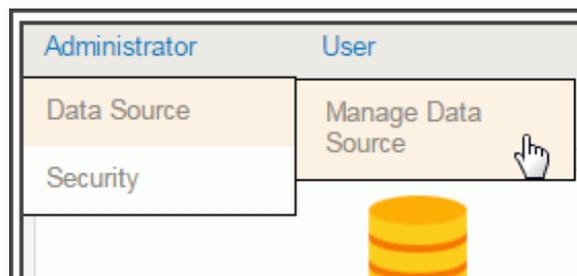
Cleo Dashboards prompt you upon initial login. If not selected then, you will be required to do so before running any reports

There are two methods to select a data source. Both accomplish the same result.

1. Choosing the *Manage Data Source* option that is available from the Dashboard Menu's *Data Source* section (User view).



2. Choosing *Manage Data Source* from the User/Data Source drop-down menu.



Click the data source to actually make the selection.

Select Data Source			
Data Source Name ▲	Database URL ▼	Web service URL ▼	SAP URL ▼
CIS	jdbc:postgresql://localhost:5432/postgres	http://localhost:8888	jdbc:derby://localhost:1527/..sapdb
TRANSFERS	jdbc:postgresql://localhost:5432/harmony	http://localhost:8888	jdbc:derby://localhost:1527/..sapdb
TRANSFORMATIONS	jdbc:postgresql://localhost:5432/postgres	http://localhost:8888	jdbc:derby://localhost:1527/..sapdb

Note: You are returned to the main Dashboard menu, and the selected data source for your Dashboard session displays at the top-right of the menu screen.

Using Oracle and MS SQL (for Harmony reports only)

The Harmony reports in Cleo Dashboards now support Oracle and MS SQL Server data sources. The data source type can be selected when configuring the data source from *Manage Data Source* menu.

Required configuration – Data Source ID prefixes

When configuring your data source, the Data Source ID name should be prefixed with *postgresql*, *ms_sqlserver*, or *oracle*. See examples below.

Actions	Data Source ID	Data Source Name	Database type	Database URL	Web service URL	SAP URL
	postgresql_cis	CIS	postgresql	jdbc:postgresql://localhost:5432/postgres	http://localhost:8888	jdbc:derby://localhost:15271./sapdb

For Postgres:	<i>postgresql</i>	Example:	postgresql_CIS
For MS SQL:	<i>ms_sqlserver</i>	Example:	ms_sqlserver1
For Oracle:	<i>oracle</i>	Example:	oracleDataSource

JDBC Drivers for MS SQL and Oracle

The Cleo Dashboards are not bundled with the **MS SQL** server JDBC driver jar file. To connect to an MS SQL Server, you must download the driver jar file from the Microsoft website, and then copy it to this location: *<Dashboard Installer>/mrc/production/m-power/tomcat/lib*.

The Cleo Dashboards are pre-bundled with an **Oracle** JDBC driver *ojdbc14.jar*. This allows Dashboard to connect to Oracle 11g and below. If you need to connect to later versions of Oracle, please delete the *ojdbc14.jar* file from the *<Dashboard Installer>/mrc/production/m-power/tomcat/lib* location and download the compatible version of JDBC driver from Oracle's website. Copy it to the same location.

Run Dashboards as a Service

Take these steps to set the Cleo Dashboards to run as a service for both Windows and Linux operating systems.

For Windows

1. Open a command prompt (as administrator).
2. From the Dashboard install directory, navigate to the *utils* folder. This contains *service.bat*
3. Install the Windows service entering **service.bat install**.

Note: **service.bat remove** will remove the windows service.

This installs a CleoDashboard service which starts the next time you start the operating system.

For Linux

1. Open a terminal session with admin/root level permissions, and run the following command:
chkconfig --add CleoDashboard
2. To verify the service has successfully installed, type in the command: **chkconfig --list**
3. To start the service, you have two options:
 - Reboot the system.
 - Use `service <service name> start` to manually start the service.

Notes:

This will lock the terminal session (until the service stops).

If using a GUI, once installed, select *System / Administration / Services* and find the Service to enable or disable the service.

4. To verify the service has successfully started, type in the command:
systemctl -t service

You should see the service as loaded, active and running.

Set Mail Server Options (for email notifications)

As part of the ability to schedule reports, Cleo Dashboards can also be configured to use email notifications to alert users of scheduled report status, and even provide actual reports as email attachments. Before using this feature, some initial configuration to the Dashboards install will be required. This topic describes this process.

All configurations described here takes place by editing the *messaging.properties* file, located in the Dashboard install directory, specifically:

mrc/production/m-power/mrcjava/job_streams

Update the following properties accordingly. Some properties may or may not be required based on the specific requirements of your email server, as well as whether or not authentication is required. Please consult your system administrator for more information.

Property	Description
enable_scheduler	Indicates status of the scheduler. True = enabled. False = disabled.
mpower_server	The machine name or IP address of the server on which Cleo Dashboard is installed. Modify the default value to replace the <i>localhost</i> reference to the actual machine name or IP address of the Dashboard server.
email_user	Specifies the user that the Dashboard will use to authenticate with the email server. Required only if authentication is required.
email_server	The email server used by the Dashboard to send email.
email_sender	The address that appears in the <i>From</i> field on email notifications.
email_other	Often used when sending email through another SSL authenticated server such as Office365 or gmail. For example: <i>mail.smtp.starttls.enable\}:true</i>
email_password	The user's email password.

Apply Product Updates

Product enhancements and fixes to existing functionality are made available on the Cleo Support Portal, which allows you to download the latest updates without contacting Support or your Customer Account Manager. The information below describes how to download and apply these updates to your Cleo Dashboards.

Help system updates are also available. These updates may cover enhanced procedures, updates on bugs or feature enhancements, and other useful information. Check for updates regularly.

Update Procedure

1. Obtain a downloadable product update for Dashboards from the Cleo Support Portal.
2. Select the correct update, which is available as either a Linux .bin file or a Windows executable.

Note: Before proceeding, the following prerequisites must be met:

- The Dashboard Server must be stopped.
 - Administrative access to the existing Dashboard install location is required.
3. (For **Windows**) Run the update executable and follow the instructions of the installer to complete the update process.

(For **Linux**) Open a terminal session with admin/root level permissions, navigate to and run the update binary file. Follow the instructions of the installer to complete the update process.

This completes the update process.

Post-update steps and known issues

Please note the following steps and potential issues that may apply once updating to the current version of the Dashboards.

Existing Data Sources not working after update

Any data sources being used in the previous version will no longer work; they will have to re-created and re-configured.

Steps

1. From the *Manage Data Source* screen, use the **Copy Record**  button to create a new version of each data source.
2. For each data source, use a new data source id, but still based on standard naming conventions (See information on *Required configuration – Data Source ID prefixes* on page 15).
3. Reconfigure your data source as required. Please refer to steps described in the Initial Post-Install Configuration steps in the can be found in the Product Help and in *Getting Started with the Cleo Dashboards* install guide.
4. Delete the old data source(s).
5. Restart the Dashboard server.

 If you encounter an SAX Parse exception, take these steps to resolve:

- a. Open the *mrc-spring-context.xml* file, which can be found in the Dashboards install directory `\mrc\production\m-power\mrcjava\WEB-INF\classes`
- b. Look for the line number with the exception message; go to that line number and remove the content within the `<bean>` tag (`<bean> </bean>`) .

For example:

```
<bean abstract="false" autowire="default"
class="com.mrc.dbo.EncryptionDataSource" dependency-check="default"
id="CIS" lazy-init="true" singleton="true">
  <property name="password">
<value>aT5/rUto6V7gc+LSgM/iwIqQQn9pCy0ojqPJz1+o5P0=</value> </property>
  <property name="username"> <value>postgres</value></property>
  <property name="url">
<value>jdbc:postgresql://localhost:5432/postgres</value> </property>
  <property name="driverClassName"> <value>org.postgresql.Driver</value>
</property>
</bean>
```

Current update is causing duplicate task groups in Scheduler

Duplicate tasks groups are appearing in the Scheduler's *Messaging and Scheduled Tasks* option after an update. If a task group is scheduled, it will execute twice, resulting in two messages instead of one. The duplicate must be removed to prevent this from occurring. Take these steps to remove the duplicate:

- From *Messaging and Scheduled Tasks*, locate all duplicate tasks groups (they will have same name). **Tip:** Use Search  to isolate the duplicates, as shown here.

Edit	Delete	Test	Add Task	Task Group Name	Task Group Description	Message Description	Task Source
				<input type="text" value="Group Task"/>	<input type="text"/>		
				Group Task Group			Group Report
							CIS - R00220s
				Group Task Group			Group Report
							CIS - R00220s

- Delete one of the entries, depending on which scenario applies:
 - If you haven't made any customizations to any task and message groups, or have not scheduled any tasks, then delete either one.
 - If you **have** customized any task and message groups (including scheduled tasks), then you don't want to delete that one. Delete the default duplicate.
 - The difference between the two entries may be visible from one of the Task and Message Groups columns (for example, Task Type for one might be the default *Email-HTML*, while the other is the one you customized to be *Email - Excel*).

Task Group Name	Task Group Description	Message Description	Task Source	Task Type
<input type="text" value="Group Task"/>	<input type="text"/>			
Group Task Group			Group Report	Group Report
			CIS - R00220s	Email - HTML
Group Task Group			Group Report	Group Report
			CIS - R00220s	Email - Excel

- If the difference is not visible, then use the Edit button to view additional message definitions (message type, message format, recipients, and message text) to distinguish the customized version from the default duplicate. For example: if you configured the Message Text definition to include a Sender and Message Subject, the default duplicate would not contain this information (and would be blank).

Current update resets default port value

One result of updating to v3.3 is that the port used by the Dashboards will reset to the default value of 80. If you have changed the port prior to the update, you must re-configure the port setting after the update. Instructions on how to change this default port can be found in *Default Port Configuration* on page 6.

Post-update steps (required when updating to v3.2.2 and above)

After updating to version 3.2.2 and above (from either 3.2 or 3.2.1), please take the following actions.

1. Reconfigure your data source. Please refer to steps described in Initial Post-Install Configuration.
2. Resave your scheduled reports (if any were created in a previous version). To do this, just open each Scheduled Task and save it.
3. Restart the Dashboard server.

Uninstall Dashboards

This topic describes how to uninstall Cleo Dashboards.

- Stop the Dashboard server.
- If running as a service, you must stop and remove the service from your system. Please refer to steps to Run Dashboards as a Service for details.
- Run the *Uninstall Dashboard.exe* from the *UninstallerData* folder of your install folder location, or;
- Use the desktop icon (if selected during install).

Enabling HTTPS support for the Cleo Dashboards

The following steps describe how to configure and enable the HTTPS protocol for your Cleo Dashboards installation. Primary steps include:

1. Generating a KeyStore and listing certificate details.
2. Modifying the server.xml file by adding a connector element to support SSL or HTTPS connection.

Generating a KeyStore

Use the Java Keytool command to create a self-signed certificate. Assign a password and complete the details for the certificate.

Note: an installed JDK is required to use Java Keytool.

```
$DashboardInstallation\mrc\production\m-power\tomcat\bin> keytool
-genkey -alias cleo -keyalg RSA -keystore c:\dashboardKeyStore

Enter keystore password:
Re-enter new password:

What is your first and last name?[Unknown]: any

What is the name of your organizational unit?
//omitted to save space

[no]: yes

Enter key password for <cleo>
(RETURN if same as KeyStore password):

Re-enter new password:
```

Result: You have now created the dashboardKeyStore certificate, located at c:\

Listing Certificate Details

Once again, use the Java Keytool command to list the details for the existing certificate.

```
$DashboardInstallation\mrc\production\m-power\tomcat\bin> keytool
-list -keystore c:\dashboardKeyStore

Enter keystore password:
Keystore type: JKS
Keystore provider: SUN
Your keystore contains 1 entry
msmith, 14 December 2013, PrivateKeyEntry,
Certificate fingerprint (MD5):
C8:DD:A3:AF:7F:55:A0:7F:3E:98:10:DE:8B:63:1B:A5
```

Modify the server configuration file (server.xml)

Locate and edit the Tomcat server configuration file (*server.xml*).

```
$DashboardInstallation\mrc\production\m-power\Tomcat\conf\server.xml
```

Specify a password for the for the *keystorePass* field. **You have two options:**

1. Specify plain text as the password
2. Specify an encrypted password

If specifying plain text, then add a connector element to support SSL or HTTPS connection.

```
//...
<!--Define a SSL HTTP/1.1 Connector on port 8443
This connector uses the JSSE configuration, when using APR,
the connector should be using the OpenSSL style configuration
described in the APR documentation -->

<Connector port="8443" protocol="HTTP/1.1" SSLEnabled="true"
maxThreads="150" scheme="https" secure="true"
clientAuth="false" sslProtocol="TLS"
keystoreFile="c:\dashboardKeyStore"
keystorePass="password"/>
//...
```

Note: *keystorePass="password"* is the same password you assigned to your keystore via the *keytool* command in the first part of this procedure (Generating keystore).

3. Uncomment the existing section.
4. Add *KeystoreFile*.
5. Add *KeystorePass*.
6. Re-start the Dashboard server to complete the configuration.

If specifying an encrypted password, then take these steps:

1. Run the utility **passwordencrypt.bat** (or *sh*) to encrypt the keystore password. This can be found in `<DashboardInstallation>\mrc\production\m-power\tomcat\bin`.
2. Use the encrypted password in the *keystorePass* field of the Connector element of the *server.xml* file. (An example shown here)

```
<!-- <Connector port="8443"
protocol="com.cleo.tomcat.Http11Nio9Protocol" SSLEnabled="true"
maxThreads="150" scheme="https" secure="true"
clientAuth="false" sslProtocol="TLS"
keystoreFile="" keystorePass="DgkD/BpSrrV/0evyR71w+A"/> -
->
```

For more information, see <http://tomcat.apache.org/tomcat-7.0-doc/ssl-howto.html>