WAMP Bundle for PHP 8.2
Installation guide

CN suite version 5.2.12+

Table of Contents

The ComplianceNow Suite (CNSuite) WAMP bundle

The CNSuite WAMP bundle is available for 64 bit windows.

Changelog

MSJava 17 instead of MSJava 11

Software needed:

1. CNSuite WAMP bundle for PHP 8.2
    - Can be downloaded from http://www.compliancenow.eu/en/software-download
2. CNSuite PHP application for PHP 8.2
    - Can be downloaded from http://www.compliancenow.eu/en/software-download
3. A CNSuite license file
    - Contact ComplianceNow support if you have not received this.

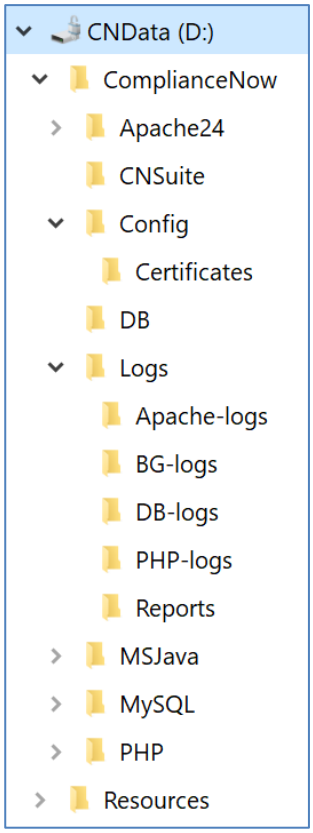
Installation & Configuration

Install the CNSuite bundle

All the software used for the CNSuite application server is placed in a single folder which needs to be unzipped manually. Keeping all the software in a common folder makes it easier to maintain in the long run. The bundle assumes a D: drive is available. If you want to place the software in another folder than the D: drive, you will have to maintain the references to the software in all the configuration files. This will be explained later in this guide.

For performance reasons it might be beneficial to install the MySQL database in another drive. In that case make sure that the references to the database are changed in the configuration file.

Unzipping the Bundle in the D: drive will create the following folder structure. The folder “ComplianceNow” contains the entire server software structure and the folder “Resources” contains additional software and documentation.

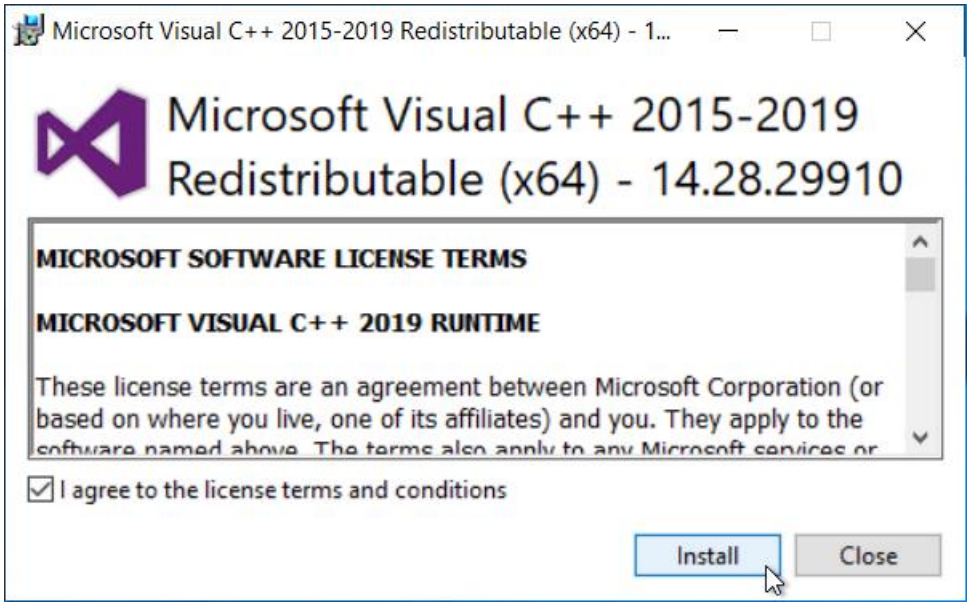


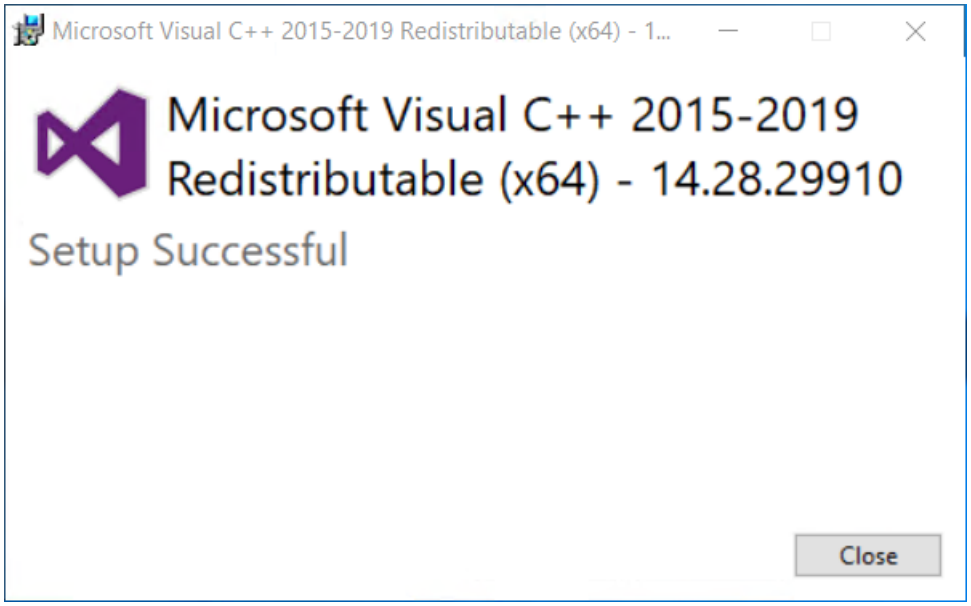
Visual C++ Redistributable for Visual Studio 2015-2022 installation

The Visual C++ Redistributable Packages install runtime components that are required to run C++ applications built with Visual Studio 2017.

The Visual C++ Redistributable application for x64 is available in the WAMP bundle and placed in "D:\Resources"

Important: Only the x64 version must be installed





Configuration files

All configuration files delivered with the WAMP bundle are placed in the folder "\ComplianceNow\Config\". All the files have been maintained to ensure the bundle can run out of the box as long as the bundle is placed on a D-drive. These settings can be changed to accommodate your environment and policies.

All files are modified and commented using the following syntax, depending on whether "#" or ";" are used to denote a comment in the configuration file. It is important to go through the configuration files and change the parameters to suit the needs of your organization and security policies.

All configuration files are documented within the files.

```
# ComplianceNow-Begin
  Parameter = value to be changed
# ComplianceNow-End

; ComplianceNow-Begin
  Parameter = value to be changed
; ComplianceNow-End
```

Configuration files for Apache – httpd.conf

The configuration files are based on default files delivered by the Apache foundation and modified to suit the needs of the ComplianceNow applications. The main configuration file is "\ComplianceNow\Config\httpd.conf".

Make sure the paths are correct

```
# ComplianceNow-Begin
# Path definitions - Reference by "${VARIABLE_NAME}"
Define SRVROOT "D:/ComplianceNow/Apache24"
Define DOCROOT "D:/ComplianceNow/CNSuite"
Define CFGROOT "D:/ComplianceNow/Config"
Define LOGROOT "D:/ComplianceNow/Logs"
# ComplianceNow-End
```

Path to the apm.ini file which is used to configure the ComplianceNow applications

```
# ComplianceNow-Begin
# This is configuration to the environment variable for the apm.ini file
SetEnv PHP_APM_INI_PATH D:\ComplianceNow\Config
# ComplianceNow-End
```

```
# ComplianceNow-Begin
# This is configuration to enable Apache to use PHP 7
AddHandler application/x-httpd-php .php
AddType            application/x-httpd-php .php .html
LoadModule php7_module "D:/ComplianceNow/PHP/php7apache2_4.dll"
PHPIniDir "D:/ComplianceNow/Config"
# ComplianceNow-End
```

```
# ComplianceNow-Begin
# If the server is listening for HTTP traffic on port 80.
Listen 80
# If the server should accept HTTPS traffic the HTTPS configuration file "httpd-
ssl.conf" must be included and configured.
# The include command is listed towards the end of this file
# ComplianceNow-End
```

```
ServerAdmin
ServerName
```

There can be other parameters that must be maintained, so review the configuration file and change the parameters to suit your needs.

Configuration file for PHP

The configuration file is here “D:\ComplianceNow\config\php.ini”. The most important settings are encapsulated by comments like:

```
; ComplianceNow -begin
  Parameter = value to be changed
; ComplianceNow -end
```

If the SMTP server requires SSL or TLS, enable the parameter “extension=php_openssl.dll”

There can be other parameters that must be maintained, so review the configuration file and change the parameters to suit your needs.

Configuration file for APM

The configuration file is here “D:\ComplianceNow\config\apm.ini”.

If SMTP is used for sending mails the resources.smtp.* parameters need to be enabled and configured.

Configuration file for MySQL

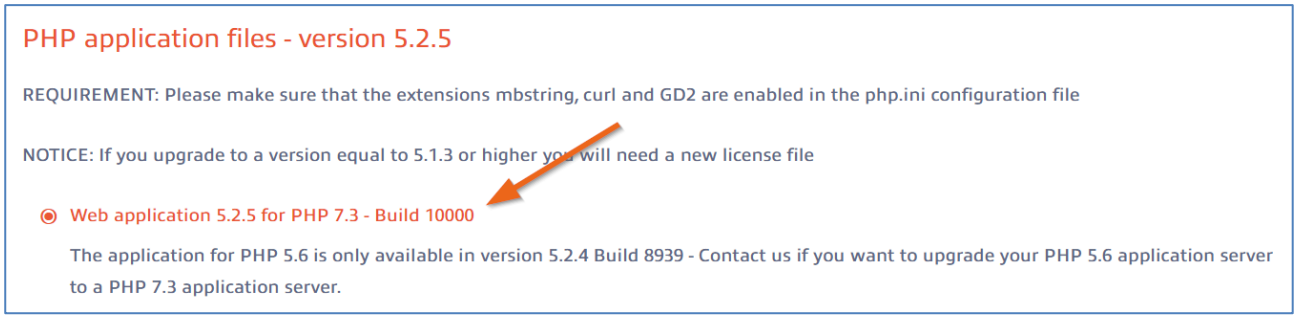
The configuration file is here “D:\ComplianceNow\config\my.ini”. The most important settings are encapsulated by comments like:

```
# ComplianceNow -begin
  Parameter = value to be changed
# ComplianceNow -end
```

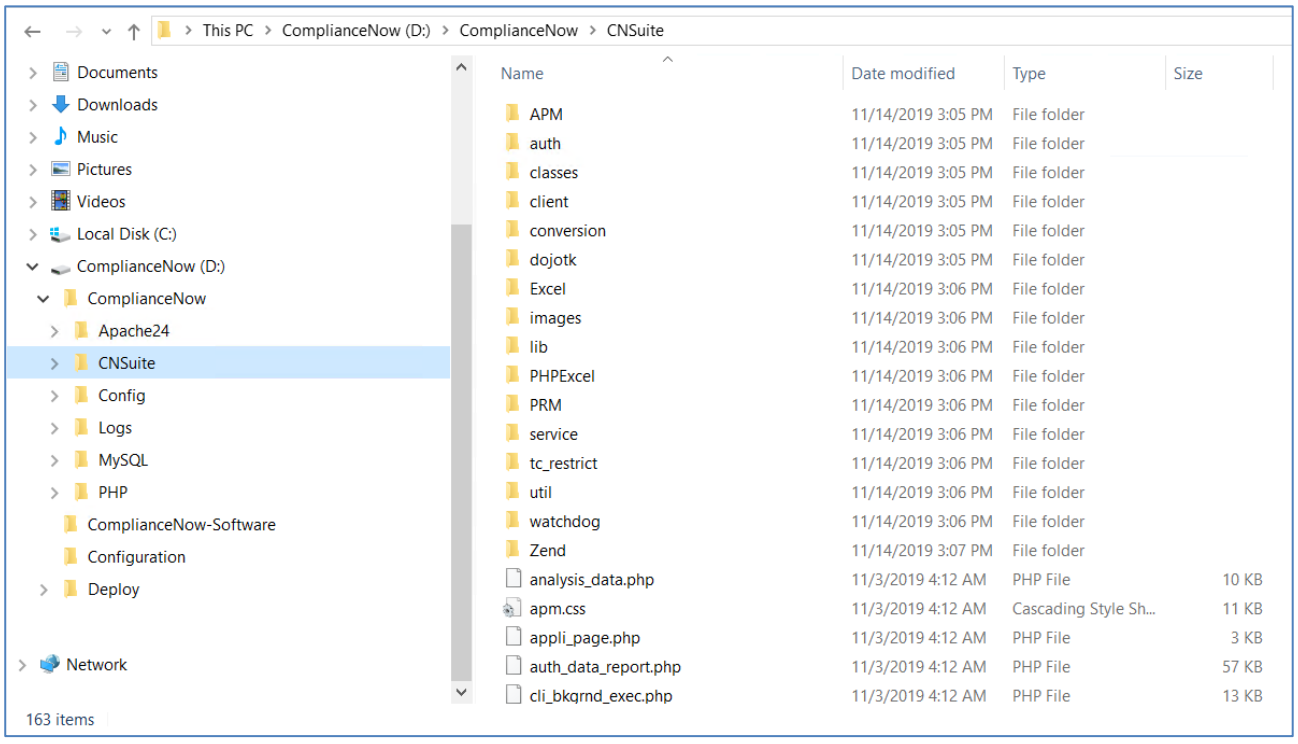
There can be other parameters that must be maintained, so review the configuration file and change the parameters to suit your needs.

Install the CNSuite application files

Download the ComplianceNow application file for PHP 8.2 “cns-<version>-<build>-php82.zip” from the ComplianceNow website.



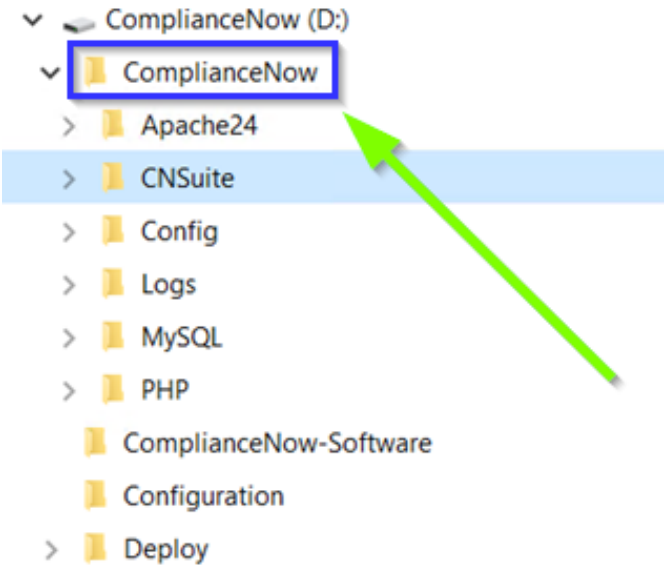
The zip file contains a folder named as the CNSuite version e.g. “5.2.8”. Extract the contents of this folder into the folder D:\ComplianceNow\CNSuite\ so the result will look similar to this:



CNSuite license file

Place the delivered license file in the directory “D:\ComplianceNow\”.

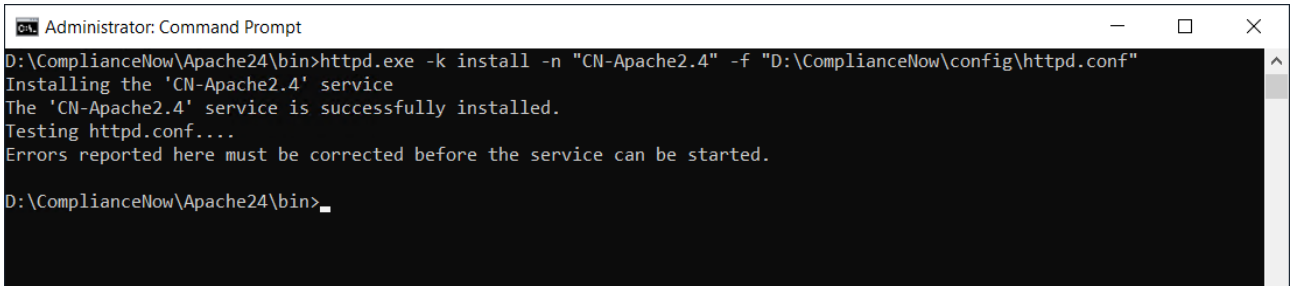
The file must be renamed to “CNLicense.lic”



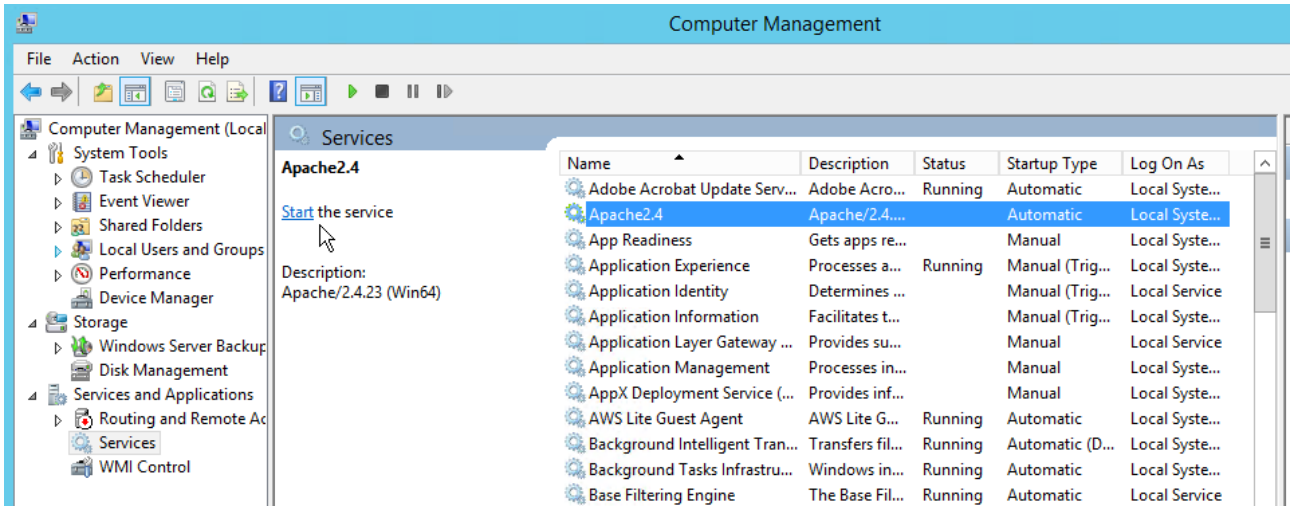
Install Apache service

Install Apache as a service. Open a command window in the folder “D:\ComplianceNow\Apache24\bin\” and execute the following command. The name of the service is indicated after the parameter -n. In this case the service is named "CNow-Apache2.4". The parameter -f points to the configuration file used by Apache.

```
httpd.exe -k install -n "CNow-Apache2.4" -f "D:\ComplianceNow\Config\httpd.conf"
```



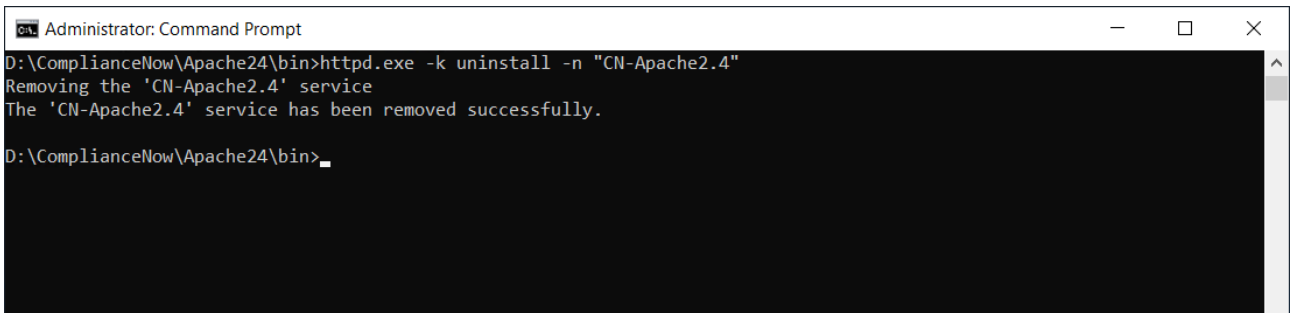
Start the Apache service in the Computer Management Console. This will be the same name as specified when creating the service.



Uninstall Apache service

If you want to uninstall the service at a later time, open a command window in the folder “D:\ComplianceNow\Apache24\bin\” and execute the following command. In this example the service is named “CN-Apache2.4”.

```
httpd.exe -k uninstall -n "CNow-Apache2.4"
```



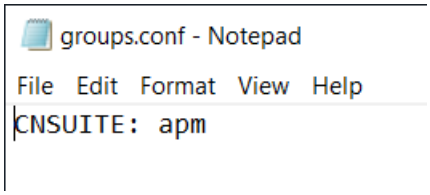
Create Apache user

Whenever a system or user tries to connect to the Apache server, it is possible to ensure various forms of authentication. The WAMP bundle is preconfigured to utilize a basic form of authentication and authorization. More advanced forms are available:

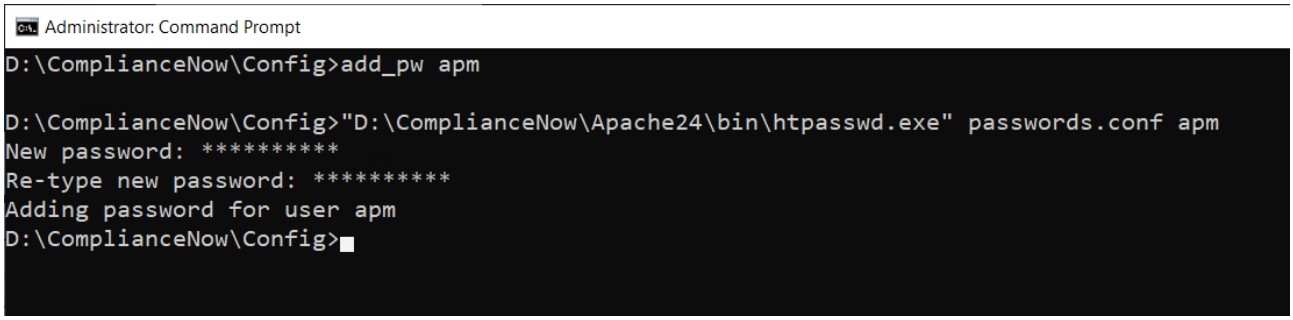
https://httpd.apache.org/docs/2.4/howto/auth.html

All files used for this activity are placed in the folder “D:\ComplianceNow\Config”. If the path to the ComplianceNow config folder differs from “D:\ComplianceNow\Config”, then you must execute the command from that specific folder.

Determine username to be used for connecting to the Apache server and add it to the file “groups.conf” after the “CNSUITE:”.



In a command prompt execute the command “add_pw <USER NAME>. The script will prompt for a password which must be entered twice.



The password will be stored in the file “passwords.conf”.

Database installation

There are different options for the use of databases. The first option is to use the database delivered in the WAMP bundle as is. The included MySQL database is a community edition. It comes with a configuration file ready for use.

The other option is to download a MySQL version with an installer that suits your needs. Either the MySQL Community Server 8.0.x for your operating system of choice or perhaps use the MySQL Enterprise Edition with advanced features.

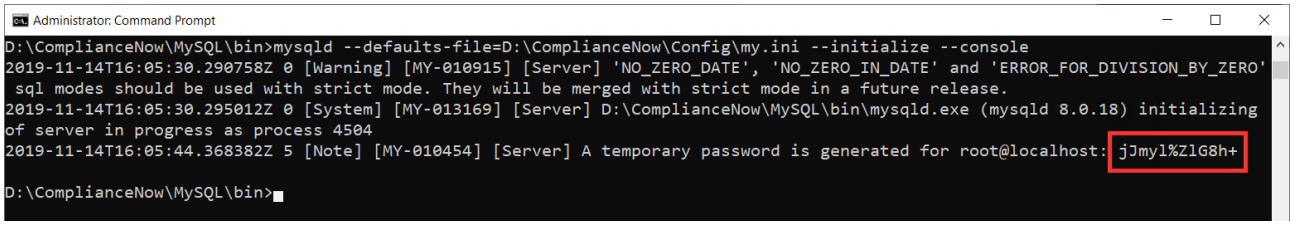
It must be either MySQL version 8.0.x or a compatible version.

https://dev.mysql.com/downloads/mysql/

Initialize MySQL database

Open a command prompt in the folder "D:\ComplianceNow\MySQL\bin" and execute the following command.

```
mysqld --defaults-file=D:\ComplianceNow\Config\my.ini --initialize --console
```



The process will generate a temporary password for the user root. The first time the user root logs on you will be prompted to change the password.

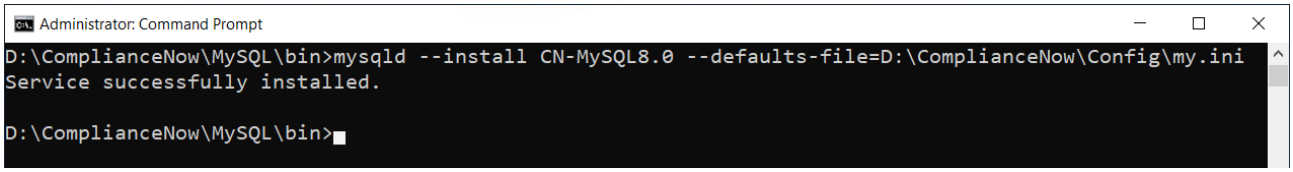
For more details on the initialization process:

https://dev.mysql.com/doc/refman/8.0/en/data-directory-initialization.html

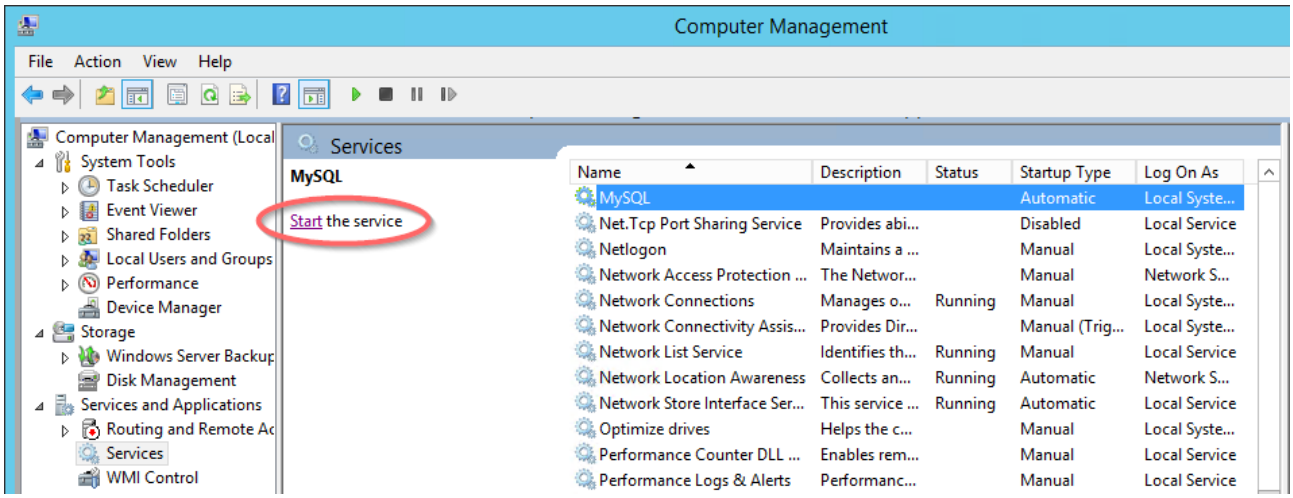
Install MySQL service

Install MySQL as a service. Open a command prompt in the folder “D:\ComplianceNow\MySQL\bin” and execute the following command. In this example we name the service “CNow-MySQL8.0”, but you can name the service what you want.

```
mysqld --install CNow-MySQL8.0 --defaults-file=D:\ComplianceNow\Config\my.ini
```



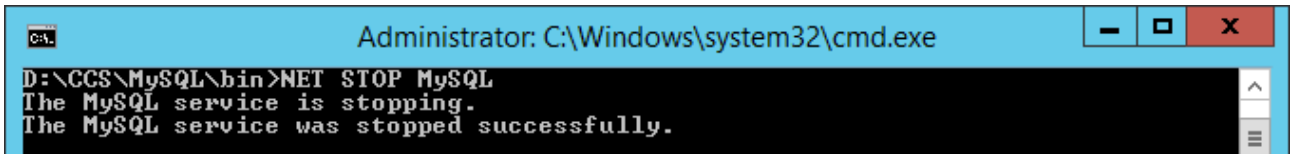
Start the service MySQL in the Computer Management Console



Uninstall MySQL service

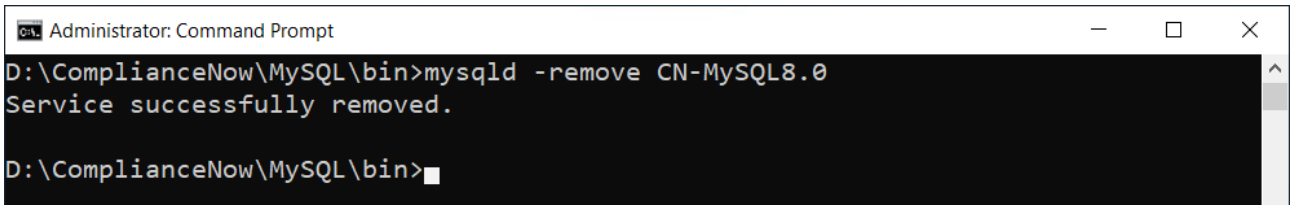
If you want to uninstall the service at a later time, open a command window in the folder "D:\ComplianceNow\MySQL\bin" and execute the following command to stop the service:

```
NET STOP CNow-MySQL8.0
```



Then execute the following command to remove the service, where "CN-MySQL8.0" is the name of the specific service:

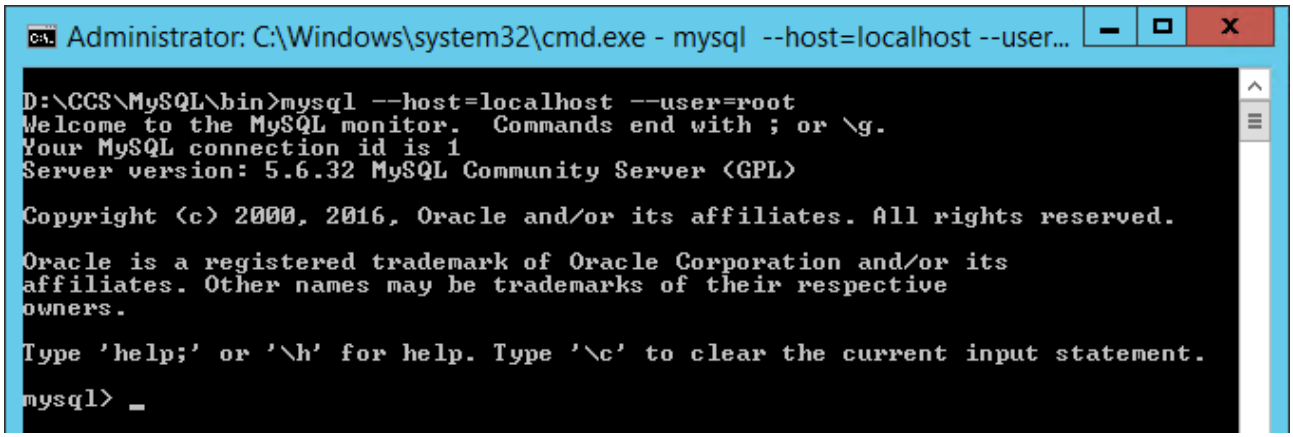
```
mysqld –remove CNow-MySQL8.0
```



Create the ComplianceNow database schema

Log on to the database. Open a command prompt in the folder “D:\ComplianceNow\MySQL\bin” and execute the following command.

```
mysql --host=localhost --user=root -p
```



Change password of root user first, replacing <password> with the chosen password.

```
ALTER USER 'root'@'localhost' IDENTIFIED BY 'new_password';
```

Choose a username and password for use by the web application when connecting to the database. This should not be the MySQL root user. The username and password must be entered in the apm.ini file described in the *Configuration File* section.

Execute the following commands to create the database, replacing <user> and <password> with the chosen username and password.

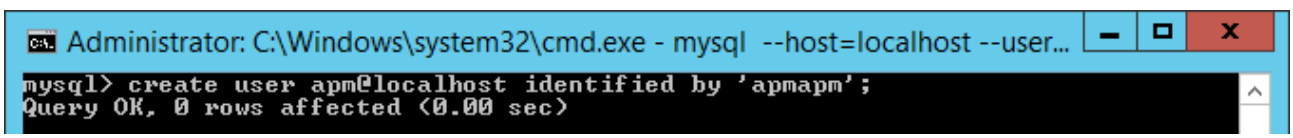
Important: The <user> must be named eg. apm@localhost and not only apm if the database is located in the same server as the Apache server. The format to use is `'apm'@'localhost'` for `<user>`.

```
create database apm CHARACTER SET UTF8MB4 COLLATE utf8mb4_unicode_ci;

use apm;

create user <user> identified by '<password>';
```

Important: record this username/password combination for later use**.**




```
GRANT ALL ON apm.* to <user>;
```

The database schema will be populated as part of the application installation.

Restart the web server

After all the configurations are done restart the server.

Initializing the database schema

To initialize the ComplianceNow database schema, open a command prompt in the folder where the application files have been unpacked and where you can find the file “cli_db_install.php”. In this instance the file is placed in “D:\ComplianceNow\CNSuite”, then type the following:

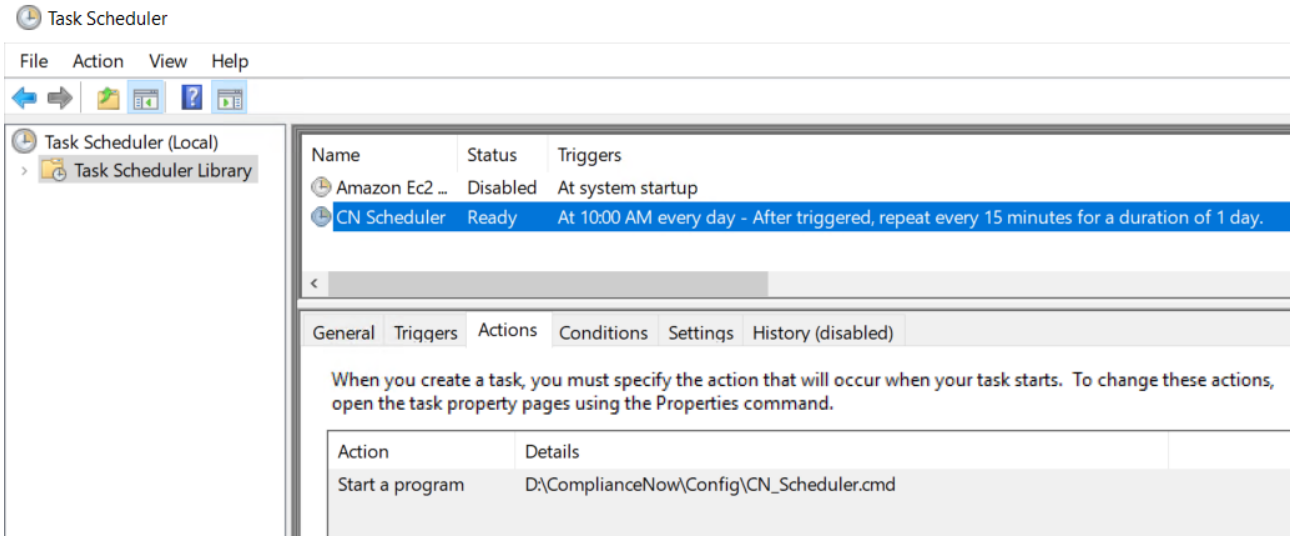
```
D:\ComplianceNow\PHP\php.exe -c D:\ComplianceNow\Config\php.ini cli_db_install.php --action
UPDATE --account <DB_SCHEMA_NAME>
```

Important: Inspect the update log file “CN_DB_Schema_Update_apm_*.log” in the “BG-logs” folder to ensure that it does not contain any errors. If any errors are found, please send the log file to ComplianceNow support team for analysis.

Schedule background mail and log cleanup job

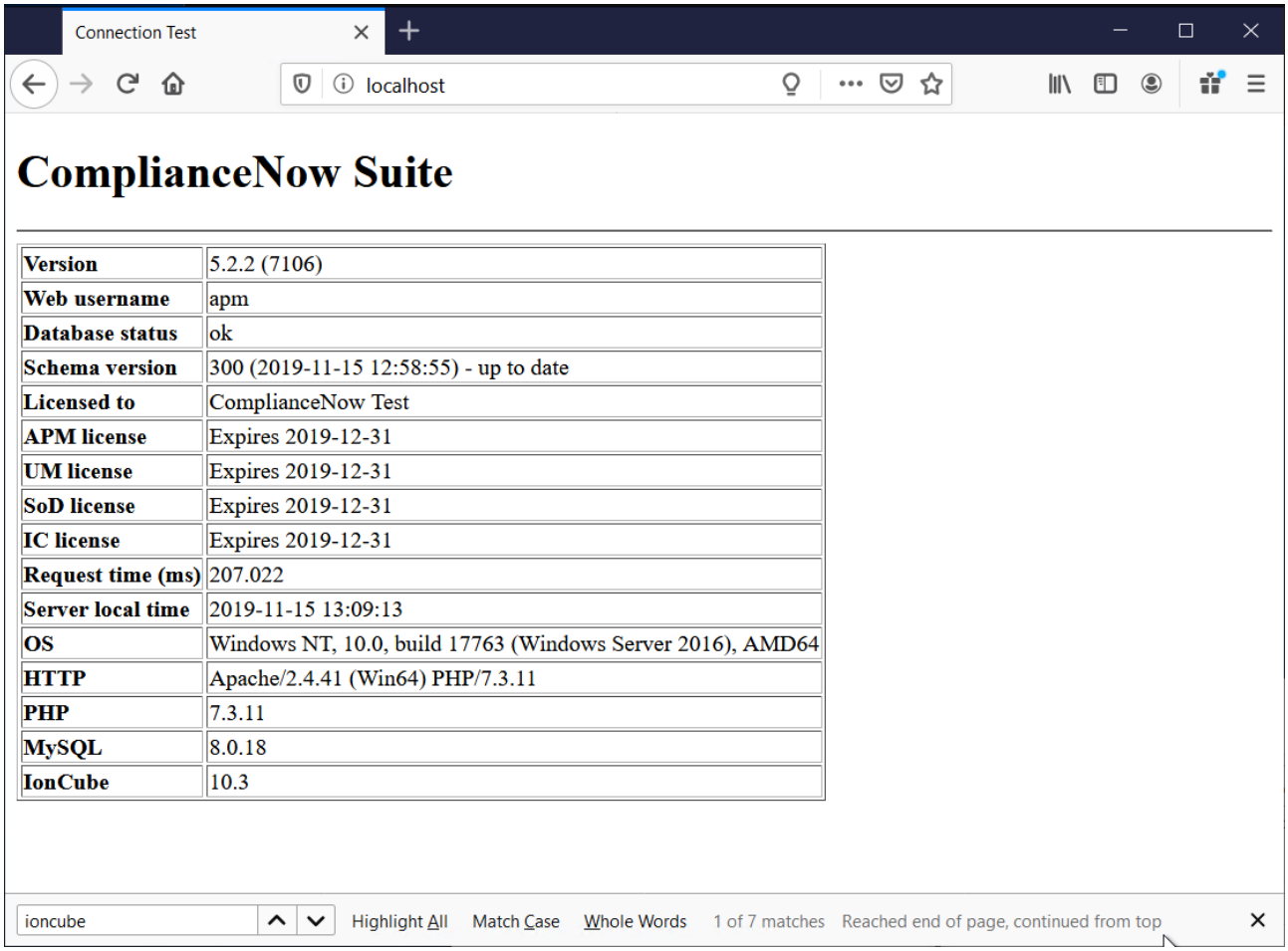
In order to enable the CNSuite to send e-mail notifications, you must also schedule the notification script to run at suitable intervals, e.g. every 1 hour. This can be accomplished using any scheduler e.g. Windows Task Scheduler.

The task will execute the script “CN_Scheduler.cmd”, which performs various log cleanup and mail tasks on the server.



Test the web server

Using the web browser on the web server, access the URL http://localhost/. If everything is working, you should see a page similar to the following:



The next step is to ensure the SAP systems can logon to the web server.

Operational Notes

Backup

It is important to ensure that frequent consistent backups of the MySQL database are maintained. We recommend taking a daily backup using e.g. the mysqldump utility or any other tool at your disposal.

https://dev.mysql.com/doc/refman/8.0/en/mysqldump.html

An example could be the following command where the database is running on localhost and user 'root' is used to logon. The actual schema name must replace 'DB_SCHEMA_NAME' and the path and name of the dump file can be changed to reflect your own requirements.

```
D:\ComplianceNow\MySQL\bin\mysqldump.exe -h localhost -u root –p --databases DB_SCHEMA_NAME
> D:\dbdump\cnsuite_yyyymmdd.sql
```

Log files

Apache and PHP log files can get extremely large. It is important to archive or delete these log files periodically to ensure the best possible application performance.

Apache log files are rotated on a daily basis, whereas the php_errors log file must be handled manually

Upgrading components

Whenever the server components are being upgraded, it is important to deactivate the apache service. That will disable users to use the application while single components are being upgraded/changed. After completing an upgrade make sure to activate the service again.

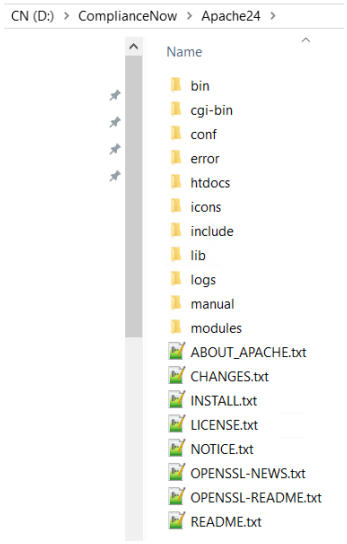
In case the database is upgraded, it will be necessary to deactivate the database service in the same way.

For example purposes it is assumed the services are named as above in this document.

Upgrading the Apache server

First you need to delete the apache service that has been created on the server. This is described in the section “Uninstall Apache service” above in this document.

Delete the folder “D:\ComplianceNow\Apache24\”. Unpack the new apache files in the folder “D:\ComplianceNow\” to create a new “Apache24” folder and make sure that the structure is the same as before.



Copy the file from

- `D:\ComplianceNow\PHP\libssh2.dll`

To the location

- `D:\ComplianceNow\Apache24\bin\libssh2.dll`

Now you need to create the apache service again. This is described in the section “Install Apache service” above in this document.

Upgrading PHP

The first step is to make a backup of the loader extension file(s). Make a copy of one or both of these files, depending on which are available in your PHP extension folder:

- `D:\ComplianceNow\PHP\ext\ioncube_loader_win_7.3.dll`
- `D:\ComplianceNow\PHP\ext\ixed.7.3ts.win`

If you are upgrading PHP version 8.2 to higher minor version, eg. From 8.2.4 to 8.2.29 then make a copy of this file:

- `D:\ComplianceNow\PHP\ext\ixed.8.2ts.win`

Rename, delete or empty the folder “D:\ComplianceNow\PHP\”. This folder is going to be replaced by the new PHP language files, so if the folder is renamed or deleted then you must create a new empty folder named “D:\ComplianceNow\PHP\”.

Download the new PHP language files from https://www.php.net/. The files need to be unpacked to the folder “D:\ComplianceNow\PHP\”.

Move or copy the extension files that were backed up into the new extension folder “D:\ComplianceNow\PHP\ext\”.

Copy the file from

- `D:\ComplianceNow\PHP\libssh2.dll`

To the location

- `D:\ComplianceNow\Apache24\bin\libssh2.dll`

Upgrading the MySQL database

Upgrading the database requires a few, but important steps. The most important step is to take a backup of the schema/database before beginning the upgrade process. This is described in "Operational Notes" above.

The official documentation for the upgrade process to the latest version of MySQL 8.0.x can be accessed via the following link:

https://dev.mysql.com/doc/refman/8.0/en/windows-upgrading.html#windows-upgrading-zip-distribution

- Take a backup of the database/schema
- Stop the MySQL service
- Find the Database location in the my.ini file, which is located in the folder "D:\ComplianceNow\Config\"
- Make sure the database location is moved outside the MySQL folder, e.g. to a folder named "D:\ComplianceNow\DB\"
    - Update the my.ini config file with the correct location of the database/schema files
- Delete the folder "D:\ComplianceNow\MySQL\"
- Download the MySQL zip archive to install a new version of MySQL
    - https://dev.mysql.com/downloads/mysql/
- Unpack the contents of the zip file to "D:\ComplianceNow\" which will create a folder containing the MySQL database files called something like "D:\ComplianceNow\mysql-8.0.*-win64\".
    - Rename the folder to "D:\ComplianceNow\MySQL\"
- Initialize the database as described in the section "Initialize MySQL database"
- Start the MySQL service

The upgrade of MySQL is now done, but now the last important part is to import the backup taken earlier in this process. This is actually a 2-step process where first the backup is imported, and then the MySQL user used in the CN applications needs to be recreated.

- Import the database schema
  Execute the command from the folder "D:\ComplianceNow\MySQL\bin" in the Command Prompt. You will be asked for the root user password when the script is executed. Replace the sql file with the actual path and filename of the database schema backup file.

  ```
  mysql -u root -p < db_back_file.sql
  ```

- Create the database user with the exact same credentials as in the old database. First logon to the database with the root user.

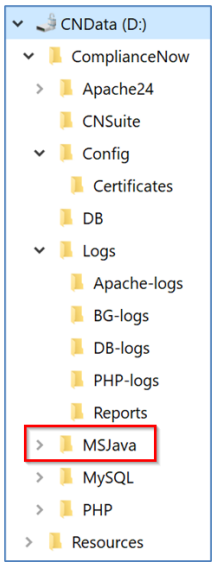
  ```
  CREATE USER '<username>'@'localhost' IDENTIFIED BY '<password>';
  ```

  Assign schema rights to the user

  ```
  GRANT ALL ON <db_schema_name>.* to '<username>'@'localhost';
  ```

  Important: replace <username>, <password> and <db_schema_name> with the correct values.

Upgrading Microsoft JDK



The JDK is placed in the folder “MSJava”. The task of upgrading the MSJava files is simple and requires the folder to be replaced by a folder containing the new JDK.

First download the required version of the JDK from as a zip file:

https://docs.microsoft.com/en-us/java/openjdk/download

Extract the contents of the zip file to the D:\ComplianceNow\ folder. This should create a new folder with the entire JDK within eg. “jdk-17.0.3+7”.

Rename the old folder “MSJava” to something else, to indicate an older version. This folder can be deleted once the upgrade is complete.

Rename the new folder “jdk-17.0.3+7” to “MSJava” in order to preserve the configuration. The important thing is that the reference in the configuration file “apm.ini” is correctly referencing the Java folder and pointing to the Java executable file.

```
41  ; path to the Microsoft Java executable
42  resources.java.executable = 'D:\ComplianceNow\MSJava\bin\java.exe'
```