

Canto

Creating Clarity

Canto Integration Platform (CIP)

Getting Started Guide

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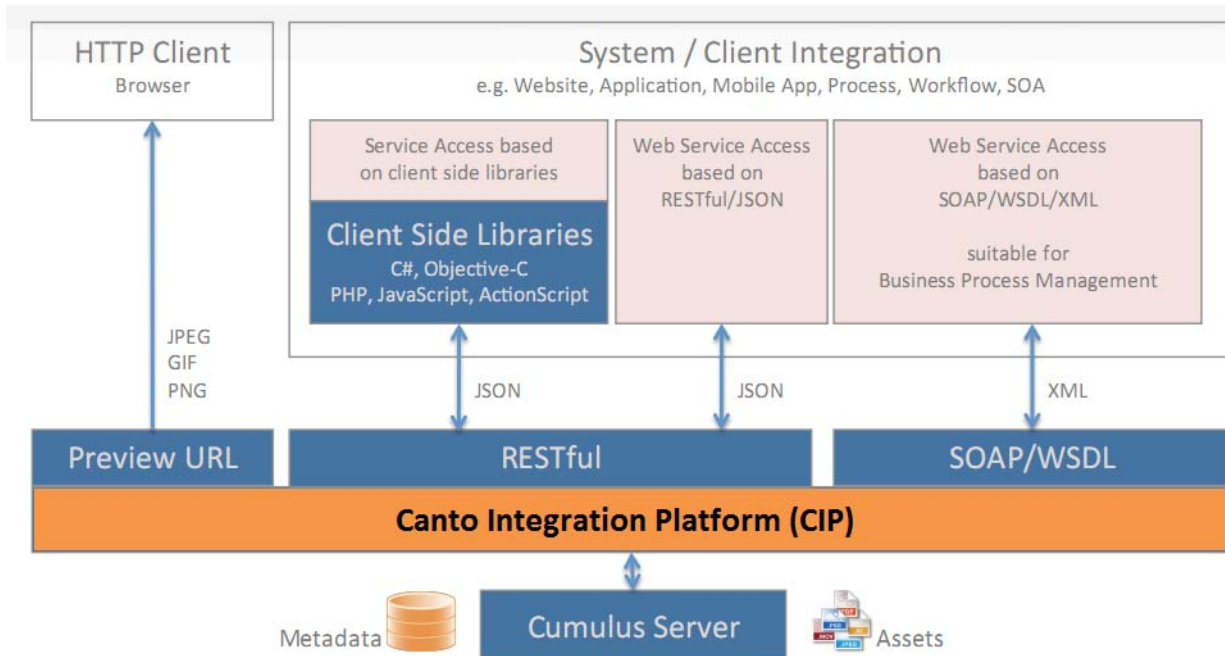
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Getting Started

CIP and Cumulus

The Canto Integration Platform (CIP) is a web application that serves as a technical interface to the entire Canto Cumulus world. As such, it can be used with all kinds of clients and solutions built on top of it, from a very simple website integration to a massive integrated and workflow-based customer portal with hundreds of users connecting.



This Guide

This manual describes how to install and initially configure CIP.

System Requirements

Canto Integration Platform is a 64-bit version.

NOTE: 64bit

In order to run the 64 bit version of the Canto Integration Platform you need a 64 bit operation system and a 64 bit Java version!

CIP requires a Web application server and Cumulus Java Classes 9.0 (or higher) installed on the machine running the Web application server.

For your convenience the Canto Integration Platform installer provides the Apache Tomcat 7.0.42 Web application server and the Cumulus Java Classes 9.0.

This section lists the minimal system requirements that must be met in order to install and run CIP on different operating systems. Using the program on a system that falls beneath the minimum requirements may be possible, but it will most likely yield unfavorable results and is not recommended.

Windows

- Windows Server™ 2012 (and latest patches), Windows Server™ 2008 (and latest patches), Windows 8 (and latest patches), or Windows 7 (SP1 and latest patches)

- Java SE 6 JDK (64 bit- version, latest updates),
- 1 GB free hard disk space for installation
- 1 GB (2 GB+ recommended) of available RAM
- TCP/IP protocol running

OS X

- A Mac computer with an Intel processor
- OS X 10.7 or 10.8 (latest patches) or OS X Server 10.7 or 10.8 (latest patches)
- Java SE 6 JDK (64 bit- version, latest updates),
- 1 GB free hard disk space for installation
- 1 GB (2 GB+ recommended) of available RAM
- TCP/IP protocol running

Linux

- Linux x86_64
libc version 6, kernel version 2.6.27.7 or higher, libstdc++ 6 (libstdc++.so.6)
Tested on: openSUSE 11.1
- 400 MB available hard disk space
- Java SE 6 JDK (64 bit- version, latest updates),

NOTE: Java JDK

Not included in Canto Integration Platform. Can be downloaded from: www.oracle.com/technetwork/java/javase/downloads/index.html

License Issues

A Cumulus Client license is required for each authenticated user with a write access to Cumulus, being it CIP's technical user or any other user accessing Cumulus via CIP. Independent from that, Pooling licenses may be acquired in order to increase the bandwidth for the communication between CIP and the Cumulus Server (i.e the number of simultaneous connections).

Installing and Activating

Canto provides installer utilities for installing the CIP Web application and the CIP Client SDK on all supported platforms. The CIP Client SDK consists of a number of libraries, sample code and examples for different client-side development environments.

Note that there is no update installer provided for Canto Integration Platform. If you need to update your existing Canto Integration Platform installation, contact Canto Professional Service or a Canto partner.

The installer guides you through the installation process. After you have installed the CIP Web application, you must activate it via the Remote Admin in the Cumulus Server Console before you can establish a connection to a Cumulus server.

The CIP Web application can be installed on any machine with TCP/IP network access to the Cumulus Server.

The CIP Client SDK can be installed on any machine. To test or use the Client SDK, you need of course TCP/IP access to the server on which CIP is running.

After the installation, you must additionally perform the following steps before you can use CIP:

- Edit the configuration file (see "Getting CIP up and Running," p. 11

- Activate CIP (see “Activating CIP,” p. 10)
- If you have installed the CIP Web Application into an already existing Web application server (e.g., Tomcat), you must additionally configure that Web application server so that it can communicate with the Canto Integration Platform (see “Configuring Your Web Application Server,” p. 13).

Installing the Client SDK is a task of its own and usually performed on machines other than the one on which the CIP web service is installed (see “Installing the CIP Client SDK,” p. 10).

Installing CIP Web Application

The installers provide different installation modes for Canto Integration Platform:

- Either you may install CIP together with the Tomcat Web application server and the Cumulus Java Classes as a stand-alone solution.
- Or you may install only the CIP Web application into an already existing Web application server (e.g. Apache Tomcat). In this case, the Cumulus Java Classes, must be installed *before* the installation of the CIP Web application.

You will be prompted to select the appropriate mode during the installation process.

NOTE: *Java SE 6 JDK can be downloaded from Oracles Website (<http://www.oracle.com/technetwork/java/javase/downloads/index.html>).*

Installing under Windows or OS X

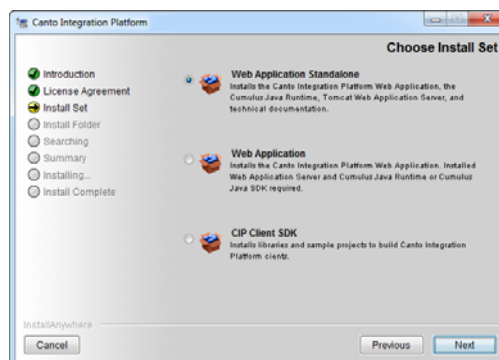


To install the Canto Integration Platform under Windows or OS X:

1. Log on to the local machine as the *Administrator*.
 Log on to local machine.
2. Double-click **Install_Canto_Integration_Platform_900_64Bit.exe**.
 Double-click **Install Canto Integration Platform 900** and authenticate yourself as an administrator.

The installation resources are extracted and you are asked to select a language. This language is used for the installation process as well as for the application being installed.

3. Select a language and click **OK**. The installer is launched.
4. When the Introduction screen is displayed, click **Next** to continue, then follow the instructions given on the subsequent screens. It is recommended to adopt the given suggestions.
5. When prompted to choose an Install Set, choose either **Web Application Standalone** or, if there is already installed another web application server, choose **Web Application**.



- Click **Next** to continue, then follow the instructions given on the subsequent screens. It is recommended to adopt the given suggestions.

The installation process will take some time.

- When the installation is finished, the **Install Complete** window is displayed. Click **Done** to end the installation and close the window. Additionally, the folder containing the CIP configuration file is displayed, making it easy for you to locate and edit this file.

NOTE:  **Running the CIP Service!**

*If you have installed Canto Integration Platform as option **Web Application Standalone**, CIP is registered as a Tomcat service but not started. You can start it after you have finished the required basic configuration. Canto recommends you to run CIP as a service.*

*If – due to any special reasons – you don't want the service, you can uninstall it using the provided **unregister.bat** file in the **bin** folder of your Apache Tomcat Web application server installation folder.*

Installing under Linux

With Linux versions, Canto provides a CONSOLE mode installation.

The CONSOLE mode installation guides you through all steps necessary to install CIP. To accept the default values [shown in square brackets] press the Enter key.

To install Canto Integration Platform under Linux:



- Open a UNIX shell as Administrator. The CONSOLE mode installation is started manually by typing the script name at the command prompt.
- Start the CONSOLE mode installation by entering:
sh CIP900_64Bit.bin
- When the Introduction is displayed, press Enter to continue. The software license agreement is displayed.
- Read the displayed license agreement and enter **y** to accept.
The default installation location is displayed.
- To accept the default installation location, press Enter to continue. Or, if you do not want to accept the default location, enter the absolute path for the desired installation folder and press Enter to continue.
The Choose Install Set dialog opens.
- Select the desired installation mode and press Enter to continue.
If you install the Web Application only, as you are using an existing Cumulus Java Classes installation and a Web application server installation, you will be prompted to enter the installation path for each. For the Web application server installation enter the path of the **webapps** subdirectory of your Tomcat installation directory.
The Choose dialog for choosing the Java SDK home directory opens.
- Enter the path of the home directory of your Java SDK installation. Then press Enter to continue.
The Pre-Installation Summary is displayed.
- Press Enter to start the installation.
The installer begins copying files. When the installation is complete, the path of the Sites configuration file is displayed.
- Press Enter and the Install Complete information is displayed.

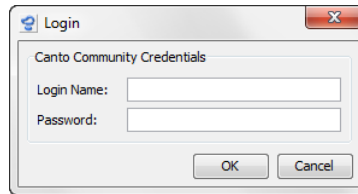
10. Press Enter to end the installation and exit.
-

Activating CIP

CIP is activated – like any other newly purchased option – via the Remote Admin in the Server Console:



1. Start the Cumulus Client.
2. Select **File > Administration > Server Console**.
3. Select the server machine where the Cumulus Server runs (e.g. localhost, if client and server are running on the same machine), then log in with the administrator user name and password.
4. In the left pane of the Server Console, select **Remote Admin > License**.
5. The current license information is displayed in the right pane. Scroll down, if necessary, and click **Activate Cumulus**. A login window appears.



6. Login to your Customer Portal Account with your **Login Name** and **Password**.
A window appears displaying all options included in your contract, activated as well as not (yet) activated.
 7. Mark the checkbox of the Canto Integration Platform option, then click **OK**.
Your Canto Integration Platform installation is activated. The license information displayed in the right pane of the Server Console is updated accordingly. A window appears to inform you about the success of the activation.
 8. Click **OK**. You may now start using CIP.
-

NOTE: *If you have installed the CIP Web application into an already existing Web application server, don't forget to configure the Web application server software so that it can communicate with CIP (see "Configuring Your Web Application Server," p. 13, for details).*

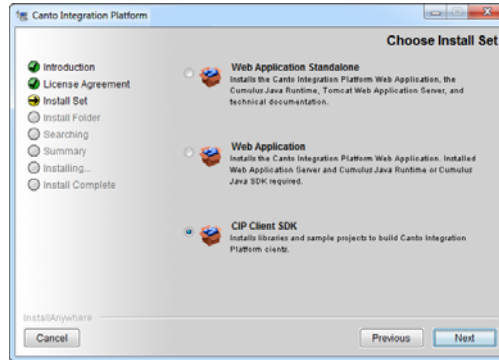
Installing the CIP Client SDK

The CIP Client SDK may be installed on a developer system of your choice (usually a machine different from that the CIP web application runs on).



1. Double-click **Install_Canto_Integration_Platform_900_64Bit.exe**.
 Double-click **Install Canto Integration Platform 900** and authenticate yourself as an administrator.
The installation resources are extracted and you are asked to select a language. This language is used for the installation process as well as for the application being installed.
2. Select a language and click **OK**. The installer is launched, click **Next** to continue.

- When prompted to choose an Install Set, choose **CIP Client SDK**.



- Click **Next** to continue, then follow the instructions given on the subsequent screens. It is recommended to adopt the given suggestions.
The installation process will take some time.
- When the installation is finished, the **Install Complete** window is displayed. Click **Done** to end the installation and close the window.

You may now Open the client SDK folder for your development environment and take a look at the sample code you find there, or you may import or open the sample project that is included with the SDK and run it as is.

Getting CIP up and Running

In order to get CIP up and running, it is required that you enter some information into the CIP configuration file, **cip-config.xml**. Immediately after the installation, the folder containing the CIP configuration file is displayed, making it easy for you to initially edit this file. To edit the CIP configuration file, you must locate it manually. To do so, open your programs directory or application folder, then navigate to:

```
..\Canto\Canto Integration Platform\apache-tomcat-7.0.42\webapps\CIP\WEB-INF\conf\.
```

Use an UTF-8 compatible editor (📄: and run it as administrator) to edit the CIP configuration file.

In order to use Canto Integration Platform, you must at least adapt the <locations> section according to your environment. In order to run the sample projects included in the CIP installation, you must also specify the IP address of the Cumulus Server (unless you have CIP and the Cumulus Server installed on the same machine). You may further want to modify the user's name and passwords of the configured sample catalog to match information for your Cumulus server. The `qip-config.xml` file contains extensive comments and examples to facilitate the basic configuration.

Changes made to the CIP configuration file may take about one minute to automatically take effect. Alternatively, you may manually restart the CIP service in order to make your changes take effect immediately.

Testing the Installation

The default URL to access CIP is <http://0.0.0.0:8080/CIP>. Replace 0.0.0.0 with your Web application server's IP address. You can use `localhost` instead of the IP address, if your Web application server and Web browser run on the same com-

puter. 8080 is the default port used by the Web application server. Before you start testing the installation, make sure the following programs are running:

- the Cumulus Server
- the Web application server (e.g, Tomcat)
- a Web browser

To test the installation:



1. Make sure that the catalog defined is opened by the Cumulus Server and activated for Internet publishing.
2. Enter **http://0.0.0.0:8080/** into your Web browsers address field (replace 0.0.0.0 with your Web application server's IP address).
If the Apache Tomcat Web Application Server is running, an Apache Tomcat page is displayed in your browser.
3. Enter **http://0.0.0.0:8080/CIP** (the CIP default URL) into your Web browsers address field (replace 0.0.0.0 with your Web application server's IP address).
If your Web application server software is able to find the CIP default JSPX pages, you'll see a welcome page with additional information.
4. Enter **http://0.0.0.0:8080/CIP/metadata/getlayout/sample** into your Web browsers address field (replace 0.0.0.0 with your Web application server's IP address).
A list of the fields contained in the configured sample catalog is displayed in JSON format.

NOTE: *A good way of making the JSON result more readable is to use Firefox and install the JSONView add-on.*

Configuring Your Web Application Server

Each Web application server has its own unique array of setup options. We won't go through the setup process of every Web application server product on the market but will cover some basic information that, along with your Web application server's documentation, should provide you with all the information you need to get your configuration up and running.

Apache Tomcat Web Application Server

Canto Integration Platform, as installed, is pre-configured for immediate operation with Apache Tomcat Web application server. (See "Manual Tomcat Configuration," below, for details.)

NOTE: Apache Tomcat Documentation

The Apache Tomcat Web application server installation includes its own documentation. You can find this on the Server machine under <http://localhost:8080/tomcat-docs>. Most current information can be found on Apache's Website, <http://www.apache.org>

If running as an application, the Apache Tomcat Web application server is started and stopped via the `startup.sh` and `shutdown.sh` utilities (Windows: `startup.bat` and `shutdown.bat`) found in the **bin** folder of your Apache Tomcat Web application server installation folder. Note that under Windows 2008 / Windows 7 the startup utility must be executed with administrator permissions!

If you experience slow performance of your Web application server, we recommend that you optimize the memory for Java VM in the **`catalina.sh`** or **`catalina.bat`** (Windows) file of the Apache Tomcat Web application server. Under Linux, we also recommend that you increase the limits for file descriptors. For more information on both topics, see the documentation of the Apache Tomcat Web application server.

Starting Apache Tomcat Service under Windows 2008/7

CIP is registered as a windows service during installation, and initially configured to be started manually.

To start the Canto Integration Platform service under Windows 2008/7:



1. Select **Start > Control Panel > Administrative Tools > Services**.
2. Select the **Canto Integration Platform** service (scroll down the list, if necessary).
3. Click **Start the Service**.

The service is started and can be used.

To change the startup behavior of the Canto Integration Platform service



1. Select **Start > Control Panel > Administrative Tools > Services**.
2. Select the **Canto Integration Platform** service (scroll down the list, if necessary).
3. From the shortcut menu, select **Properties**.
4. Change the **Startup type** to **Automatic**, then click **OK**.

From now on, the CIP service will be started automatically during the startup of the operating system.

Manual Tomcat Configuration

The following sections describe different configuration suites to have the Apache Tomcat Web application server running Canto Integration Platform. Although CIP, as installed, is pre-configured for immediate operation with Apache Tomcat Web application server, you may want to check the configuration.

Windows Running Tomcat Version 6 as an Application

To configure Tomcat 6 running as an application under Windows to work with Canto Integration Platform:



1. Edit the file `%TOMCAT_HOME%\bin\setclasspath.bat` and append the following line to the end:

```
set CLASSPATH=%CLASSPATH%;C:\Program Files\Canto\Canto Integration Platform\CumulusJC.jar
```

(assuming that the Cumulus Java Classes are installed in:
C:\Program Files\Canto\Canto Integration Platform)

NOTE: Use ; (a semicolon) as separator.

Windows Running Tomcat Version 6 as a Service

When running Tomcat as a service it does not execute the "`%TOMCAT_HOME%\bin\setclasspath.bat`".

The simplest way is to modify the service.bat file:



1. Change the following line to include the `CumulusJC.jar` in your classpath:

```
set PR_CLASSPATH=%CATALINA_HOME%\bin\bootstrap.jar
```

```
to
set PR_CLASSPATH=%CATALINA_HOME%\bin\bootstrap.jar;C:\Program Files\Canto\Canto Integration Platform\CumulusJC.jar
```

(assuming that the Cumulus Java Classes are installed in:
C:\Program Files\Canto\Canto Integration Platform)

Linux Running Tomcat Version 6 as a Daemon

To configure Tomcat 6 running as a daemon under Linux to work with Canto Integration Platform you have to edit the script starting the daemon.

Assuming that the Cumulus Java Classes are installed in `/usr/local/Canto Integration Platform`, you have to modify the script as follows:



1. Insert the following lines:

```
LD_LIBRARY_PATH=${LD_LIBRARY_PATH}:/usr/local/CantoIntegrationPlatform/lib
export LD_LIBRARY_PATH
```

2. Insert the following line after the other settings of the CLASSPATH:

```
CLASSPATH=${CLASSPATH}:/usr/local/CantoIntegrationPlatform/CumulusJC.jar
```

NOTE: Use : (a colon) as separator.

OS X and Linux Running Tomcat Version 6



1. Edit the file `$TOMCAT_HOME/bin/setclasspath.sh` and append the following line to the end:

```
CLASSPATH=${CLASSPATH}:/usr/local/CantolntegrationPlatform/CumulusJC.jar  
(assuming that the Cumulus Java Classes are installed in:  
/usr/local/CantolntegrationPlatform)
```

NOTE: Use `:` (a colon) as separator.

On *OS X* you also need to set the `DYLD_LIBRARY_PATH` environment variable:

```
DYLD_LIBRARY_PATH=/usr/local/CantolntegrationPlatform/lib  
export DYLD_LIBRARY_PATH
```

On *Linux* you also need to set the `LD_LIBRARY_PATH` environment variable:

```
LD_LIBRARY_PATH=/usr/local/CantolntegrationPlatform/lib  
export LD_LIBRARY_PATH
```