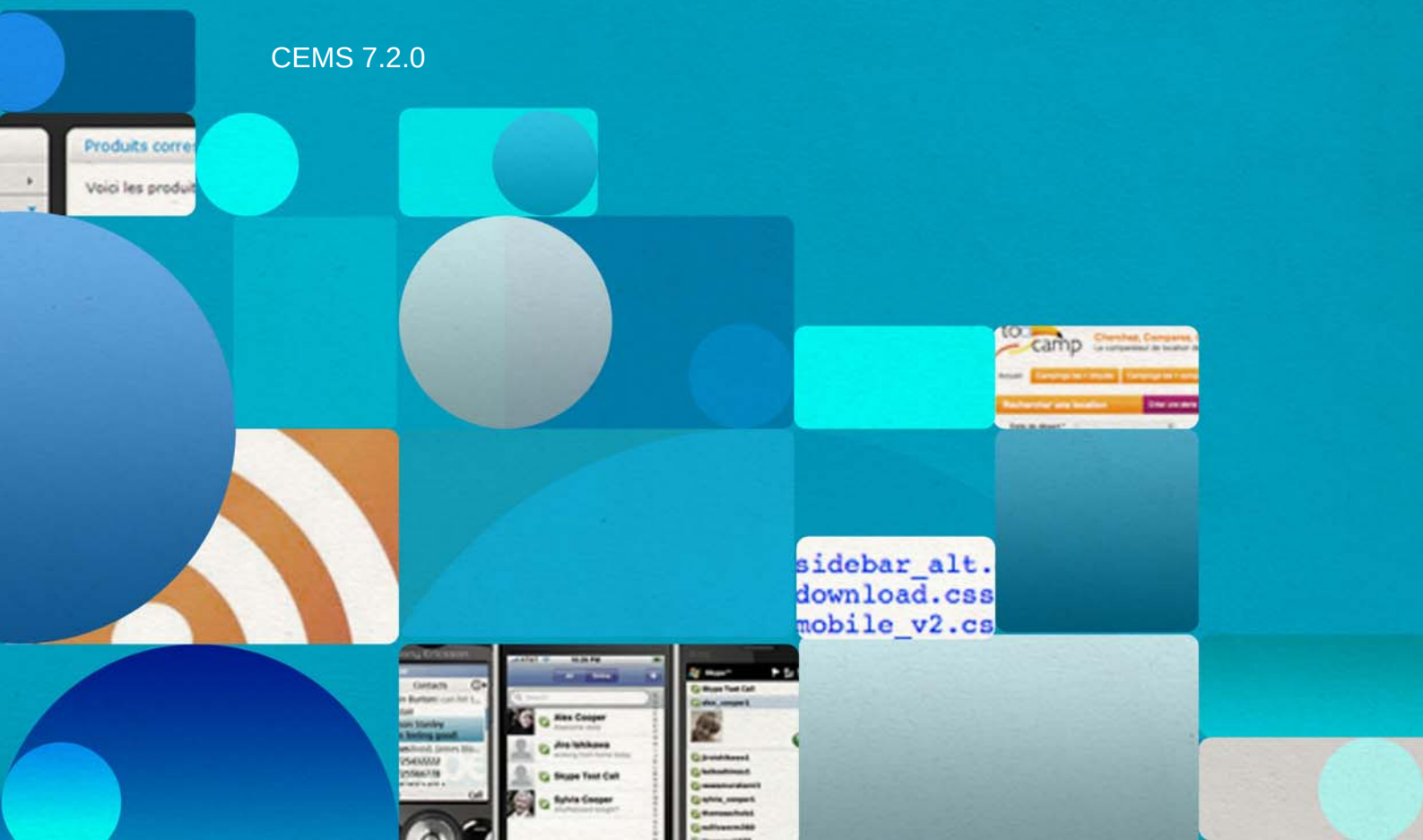
convertigo
MASHUP YOUR BUSINESS

Operating Guide

C-EMS Installation and Administration

CEMS 7.2.0



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1 Introducing the Operating Guide

This chapter presents the purpose of the *Operating Guide*, as well as key information about Convertigo softwares.

- Introduction
- Convertigo software elements

1.1 Introduction

This *Operating Guide* is the reference material concerning Convertigo installation and administration.

It contains several chapters:

- *"Introducing the Operating Guide"* - briefly describes the Operating Guide and proposes general presentation of *"Convertigo software elements"*.
- *"Installing Convertigo Studio"* - describes the installation procedures of Convertigo Studio in several qualified environments.
- *"Installing Convertigo Server"* - describes the installation procedures of Convertigo Server in several qualified environments.
- *"Using Convertigo Administration Console"* - describes how to use the Convertigo Server Administration Console.

After the last chapter, you can find *"Appendixes"* in relation with operating information.

1.2 Convertigo software elements

This section briefly presents Convertigo software elements:

- Convertigo Studio
- Convertigo Server
- Administration Console

1.2.1 Convertigo Studio

Convertigo Studio is the application development tool. It allows the developpers to develop

Convertigo projects, including the creation and configuration of objects such as transactions, extraction rules, sequences, etc.

The Studio saves Convertigo projects' specific data into XML files, which will be deployed and used by the Convertigo Server.

For more information on Convertigo Studio installation process and supported platforms, see *"Installing Convertigo Studio"* on page 2-1.

1.2.2 Convertigo Server

Convertigo Server executes projects created in *Convertigo Studio*. The Server can manage simultaneous users connected and requesting data for all different types of connectors (Legacy, HTML, Web service, SQL, etc.).

Convertigo Server is:

- a standalone server program installed as a service for Windows platforms, or
- a standard Web application for all other operating systems.

For more information on Convertigo Server installation process, as well as supported platforms and web application servers, see *"Installing Convertigo Server"* on page 3-1.

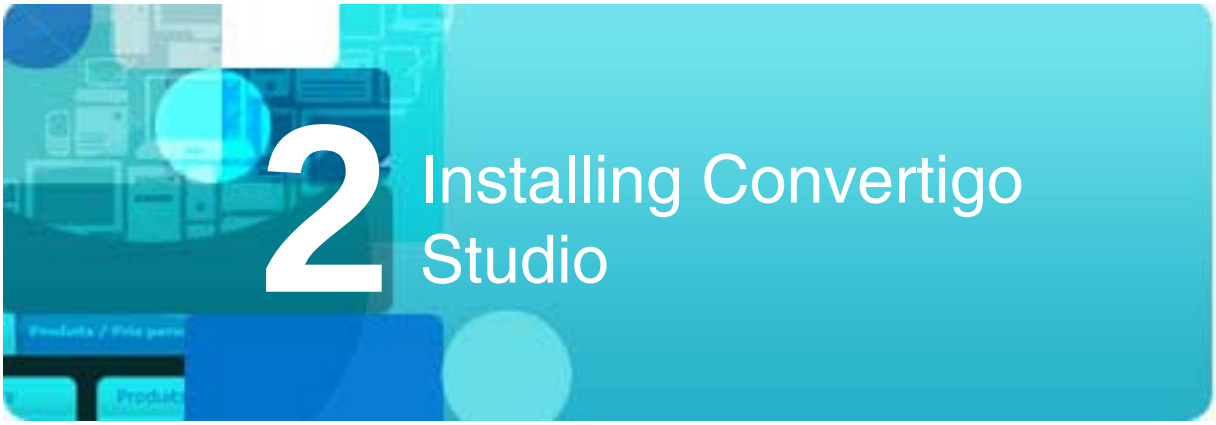
Convertigo Server engine can be monitored using the web *Administration Console*.

1.2.3 Administration Console

Administration Console is the web application that is used to administrate and configure the Convertigo Studio or Convertigo Server engine.

Thanks to a left menu leading to several pages, Convertigo Studio developers or Convertigo Server administrators can monitor engine activity and configure many engine settings.

For more information on the *Administration Console*, see *"Using Convertigo Administration Console"* on page 4-1.



2 Installing Convertigo Studio

This chapter describes how to install Convertigo Studio in the qualified environments and operating systems.

- General purpose and packages
- Convertigo Studio installation

2.1 General purpose and packages

Convertigo Studio can be installed on Windows/Linux/Mac operating systems.

You will see in the following table the officially supported operating systems and versions for Studio installation, as well as the package to use:

Table 2 - 1: Operating systems and Convertigo Studio installation packages table

	Supported versions	Convertigo package name
Windows	• Windows XPService Pack 2 (32 bits), • Windows Seven (32 and 64 bits), • Windows 8.	convertigo-studio-*X.Y.Z*-v*12345*-win32-install.exe
Linux	• RedHat, starting from version 5.2 (32 bits and 64 bits) • Ubuntu, versions 8.04 (LTS) , 10.04 (LTS), 12.04 (LTS) and 14.04 (LTS) (32 bitsand 64 bits) • Debian version 6.0 (32 bitsand 64 bits)	convertigo-studio-*X.Y.Z*-v*12345*-linux32.tar.gz
Mac OS	• Mac OS X 10.5 (Leopard) or greater (32 bits and 64 bits)	convertigo-studio-*X.Y.Z*-v*12345*-macosx32.tar.gz

In standard, Convertigo Studio installation is packaged as:

- an `.exe` file for Windows,
- an `.tar.gz` archive file for Linux and Mac.

The installer or archive file contains the Eclipse-based Convertigo Studio and the embedded Convertigo Server including an Apache Tomcat application server.

2.2 Convertigo Studio installation

This chapter explains how to install Convertigo Studio on several operating systems and then how to change the default configurations of installed Convertigo Studio:

- Installing Convertigo Studio on Windows
- Installing Convertigo Studio on Linux
- Installing Convertigo Studio on Mac OS
- Finish installing and configuring Convertigo Studio at first start
- Convertigo Studio default configuration

2.2.1 Installing Convertigo Studio on Windows

PREREQUISITES

MACHINE PREREQUISITES

The following table describes minimum machine prerequisites for installing Convertigo Studio:

Table 2 - 2: Machine prerequisites

	Windows
Version	• Windows XP Service Pack 2 (32 bits) • Windows Seven (32 or 64 bits) • Windows 8
CPU	Dual Core
RAM	2 Gb
Disk space	1 Gb

INSTALLATION REQUIREMENTS

- The Convertigo Studio installer file: convertigo-studio-*X.Y.Z*-v*12345*-win32-install.exe
- You must have administration privileges to run this installer.

INSTALLATION PROCEDURE

The following procedures explain step by step how to install and to configure Convertigo Studio on Windows.

To install Convertigo Studio on Windows

1 Double click on the installation file `convertigo-studio-X.Y.Z-v12345-win32-install.exe`

A **User Account Control** popup is displayed (for example on Windows Seven):

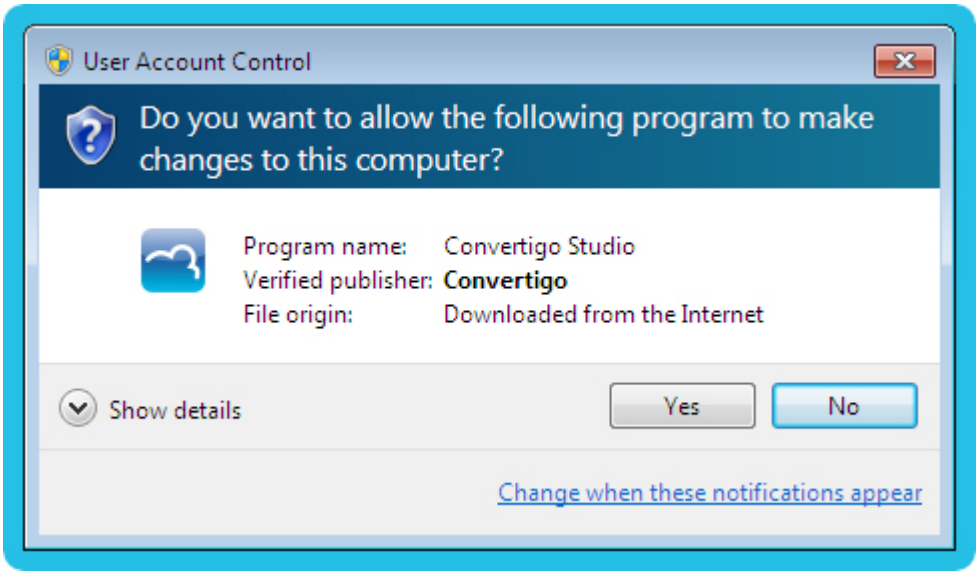


Figure 2 - 1: User Account Control popup after launching the installation file

2 Accept the warning by pressing the **Yes** button.

The Convertigo Splashscreen is quickly shown:

Figure 2 - 2: Convertigo Studio splashscreen

It is replaced by the Convertigo Studio Setup wizard:

Figure 2 - 3: Installing Convertigo Studio

3 Click on **Next** and follow the screens.

The End User Licence Agreement is displayed:

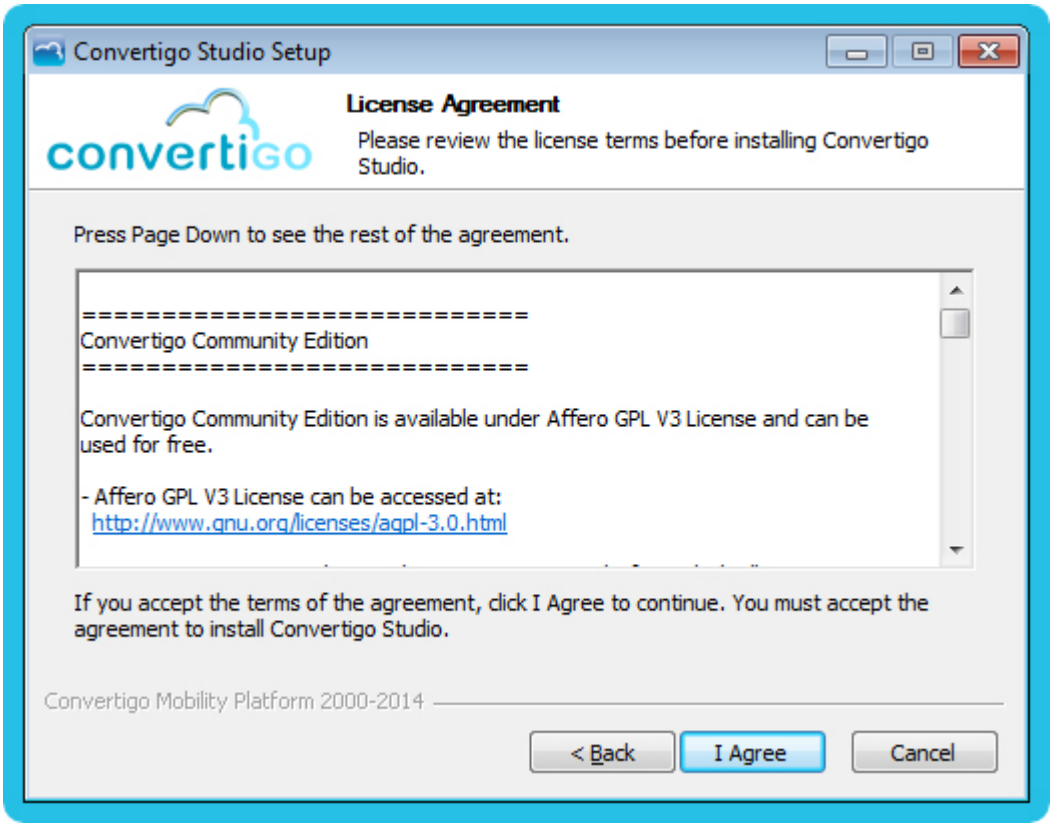


Figure 2 - 4: Convertigo Studio Licence Agreement

4 Read carefully the EULA, and accept it by clicking on the **I Agree** button.

If you do not accept the EULA, the installation has to be cancelled.

The next page proposes the Convertigo Studio components to install:

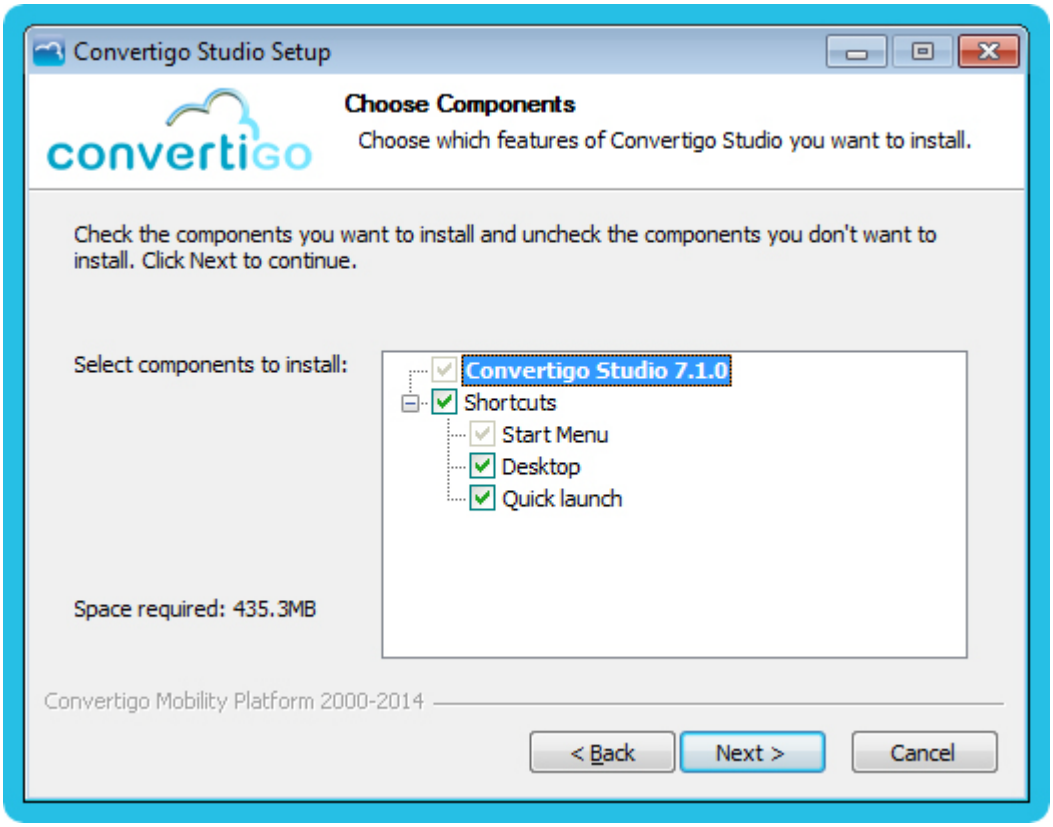


Figure 2 - 5: Choosing components

5 The Convertigo Studio component is already selected and cannot be unchecked. You can uncheck the shortcuts you will not use. Then, click on **Next**.

The next page allows you to choose the installation folder:

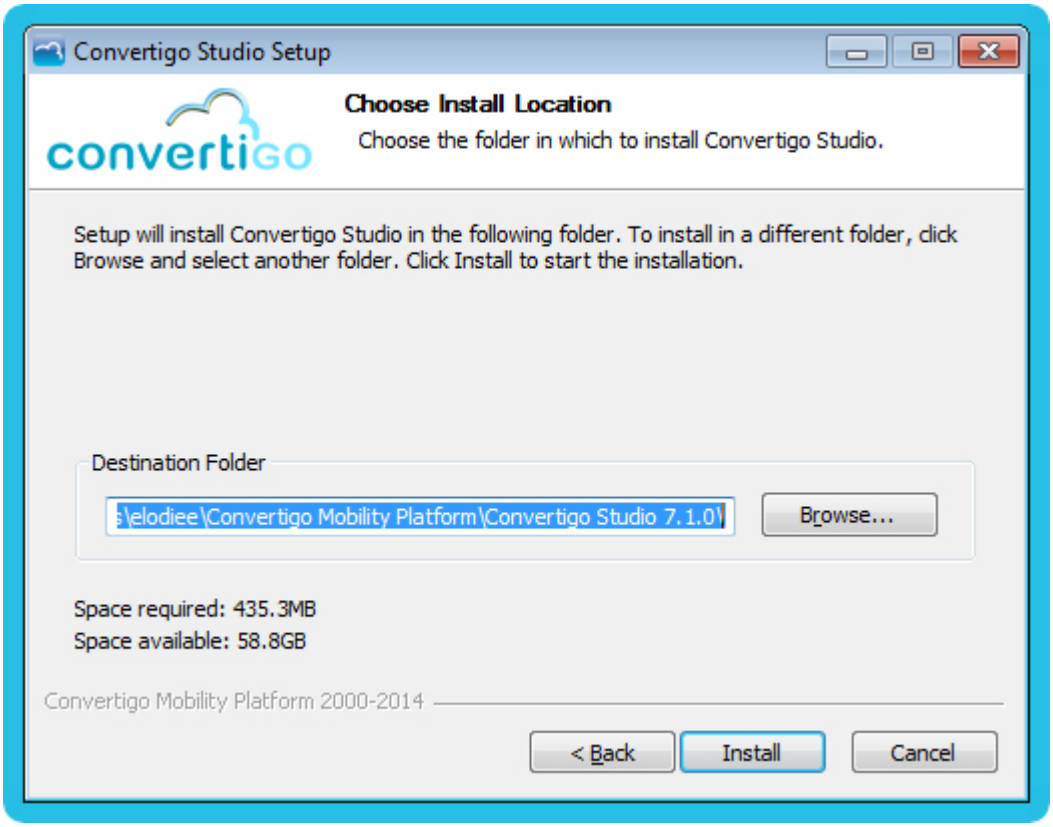


Figure 2 - 6: Setting destination folder

6 Default installation folder is located inside current user's home directory. Change destination folder if the default one is not appropriate for your installation.

Convertigo Studio requires to be installed in a folder where the current user has writting and executing rights. Indeed, as Studio is based on Eclipse, it can be updated and/or plugins can be installed/ updated.
If Convertigo Studio is not installed in a user's folder, these installation/update functionalities will not work. Moreover, Convertigo Studio will not start at all after trying to install/update some plugins.

7 Then, click on the **Install** button.

The installation starts, you should wait for a few minutes:

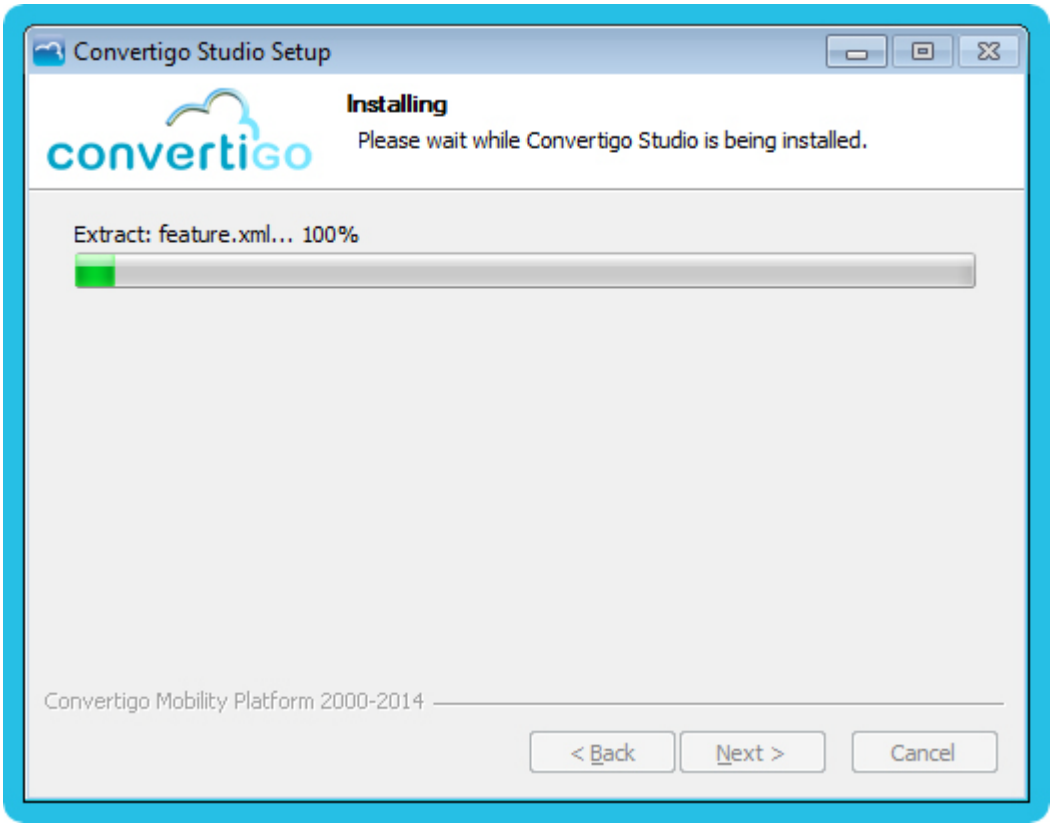


Figure 2 - 7: Start of the installation

The installation continues:

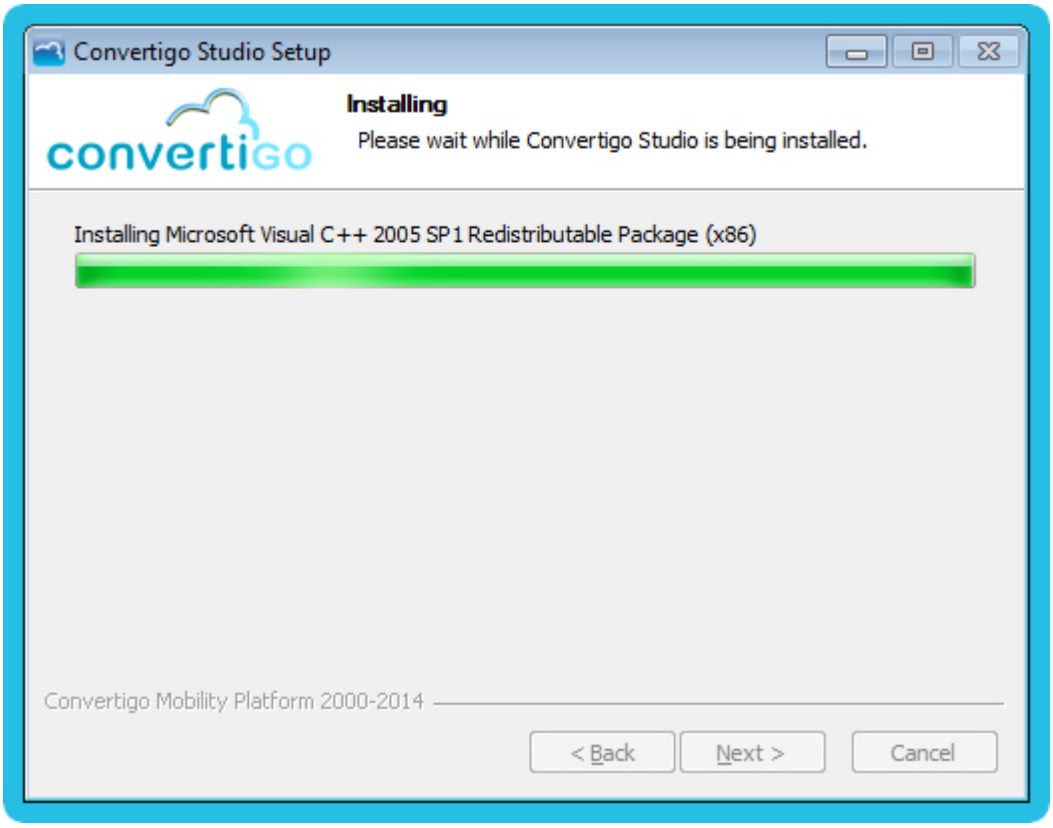


Figure 2 - 8: Installation in progress

This screen indicates the end of installation:

Figure 2 - 9: End of the installation

8 Click on the **Finish** button to close the wizard.

WHAT'S NEXT

Follow procedure *"To start and configure Convertigo Studio on Windows/Linux/Mac OS"* on page 2-15 to finish installing and configuring Studio.

2.2.2 Installing Convertigo Studio on Linux

PREREQUISITES

MACHINE PREREQUISITES

The minimum machine prerequisites for installing Convertigo Studio are the following:

- **CPU**: Dual Core,
- **RAM**: 4Gb,
- **Disk space**: 10Gb.

The following table describes the required packages to install prior to Convertigo Studio installation, depending on the Linux OS and version:

Table 2 - 3: Packages prerequisites

	Version	Packages 32 bits
RedHat 32 bits	starting from version 5.2 32 bits	• `xulrunner-1.9.0.19-1.el5_5` and all dependencies • `libXtst-1.0.1-3.1.i386` and all dependencies • `xorg-x11-fonts-Type1-7.1-2.1.el5` • `unzip` • `glibc` and all dependencies • `libXi` and all dependencies
RedHat 64 bits	starting from version 5.2 64 bits	• `xulrunner-1.9.0.19-1.el5_5` and all dependencies • `libXtst-1.0.1-3.1.i386` and all dependencies • `xorg-x11-fonts-Type1-7.1-2.1.el5` • `unzip` • `glibc.i686` and all dependencies • `libXi` and all dependencies
Ubuntu 32 bits	versions 8.04 (LTS) , 10.04 (LTS) and 12.04 (LTS) 32 bits	• `libgtk2.0-0` • `libxt6` • `libxtst6` • `unzip` • `glibc` and all dependencies
Ubuntu 64 bits	versions 8.04 (LTS) , 10.04 (LTS) and 12.04 (LTS) 64 bits	• `libgtk2.0-0` • `libxt6` • `libxtst6` • `unzip` • `glibc` and all dependencies • `ia32-libs`
Ubuntu 32 bits	version 14.04 (LTS) 64 bits	• `libgtk2.0-0:i386` • `libstdc++6:i386` • `libxft2:i386` • `libxt6:i386` • `libxtst6:i386`

Table 2 - 3: Packages prerequisites (...)

	Version	Packages 32 bits
Ubuntu 64 bits	version 14.04 (LTS) 64 bits	• `lib32z1` • `libgtk2.0-0:i386` • `libstdc++6:i386` • `libxft2:i386` • `libxt6:i386` • `libxtst6:i386`
Debian 32 bits	version 6.0	• `libgtk2.0-0` • `libxt6` • `libxtst6` • `unzip` • `bzip2` • `glibc` and all dependencies
Debian 64 bits	version 6.0	• `libgtk2.0-0` • `libxt6` • `libxtst6` • `unzip` • `bzip2` • `glibc` and all dependencies • `ia32-libs`

Specified packages are necessary for using web connectors or legacy connectors. These lists of packages are not exhaustive. If you have problems with your installation of Convertigo Server on Linux/Tomcat, please contact us.

INSTALLATION REQUIREMENTS

- The Convertigo Studio compressed file: convertigo-studio-*X.Y.Z*-v*12345*-linux32.tar.gz

INSTALLATION PROCEDURE

The following procedures explain step by step how to install and to configure Convertigo Studio on Linux.

To install Convertigo Studio on Linux

1. Expand the archive file `convertigo-studio-X.Y.Z-v12345-linux32.tar.gz` in a destination directory where you have the rights to.
2. Then, follow procedure *"To start and configure Convertigo Studio on Windows/Linux/Mac OS"* on page 2-15.

2.2.3 Installing Convertigo Studio on Mac OS

PREREQUISITES

MACHINE PREREQUISITES

The following table describes minimum machine prerequisites for installing Convertigo Studio:

Table 2 - 4: Machine prerequisites

	Windows
Version	Mac OS X 10.5 (Leopard) or greater (32 or 64 bits)
CPU	Dual Core, Intel processor
RAM	2 Gb
Disk space	1 Gb

INSTALLATION REQUIREMENTS

- The Convertigo Studio compressed file: convertigo-studio-*X.Y.Z*-v*12345*-macosx32.tar.gz

INSTALLATION PROCEDURE

The following procedures explain step by step how to install and to configure Convertigo Studio on Mac OS.

To install Convertigo Studio on Mac OS

1. Expand the archive file `convertigo-studio-X.Y.Z-v12345-macosx32.tar.gz` in a destination directory where you have the rights to.
2. Then, follow procedure *"To start and configure Convertigo Studio on Windows/Linux/Mac OS"* on page 2-15.

2.2.4 Finish installing and configuring Convertigo Studio at first start

After you installed Convertigo Studio on Windows or uncompress the archive file on Linux or Mac OS, the Studio can start but is not completely set up. You have to finish the installation by configuring it at startup. This section presents the procdedures to finish installing and configuring Convertigo Studio on all platforms.

- Configure Convertigo Studio at first startup
- Installing SVN kit in Convertigo Studio

CONFIGURE CONVERTIGO STUDIO AT FIRST STARTUP

Common to all platforms (Windows, Linux, Mac OS), the following procedure describes how to finish installing and configuring Convertigo Studio at first start.

To start and configure Convertigo Studio on Windows/Linux/Mac OS

1 On Windows, if you choose to create shortcuts during the installation wizard, simply access the shorcut that is on your desktop and double-click on it to launch Convertigo Studio. Otherwise, use the Start menu to launch Convertigo Studio.

For other platforms, Convertigo Studio was installed in the folder you choose during installation procedure. You can open this folder to access the `ConvertigoStudio` start file and double-click on it to launch Convertigo Studio.

Convertigo Studio starts:

Figure 2 - 10: Convertigo Studio splashscreen at startup

When Convertigo Studio opens, the *Workspace Launcher* popup is displayed:

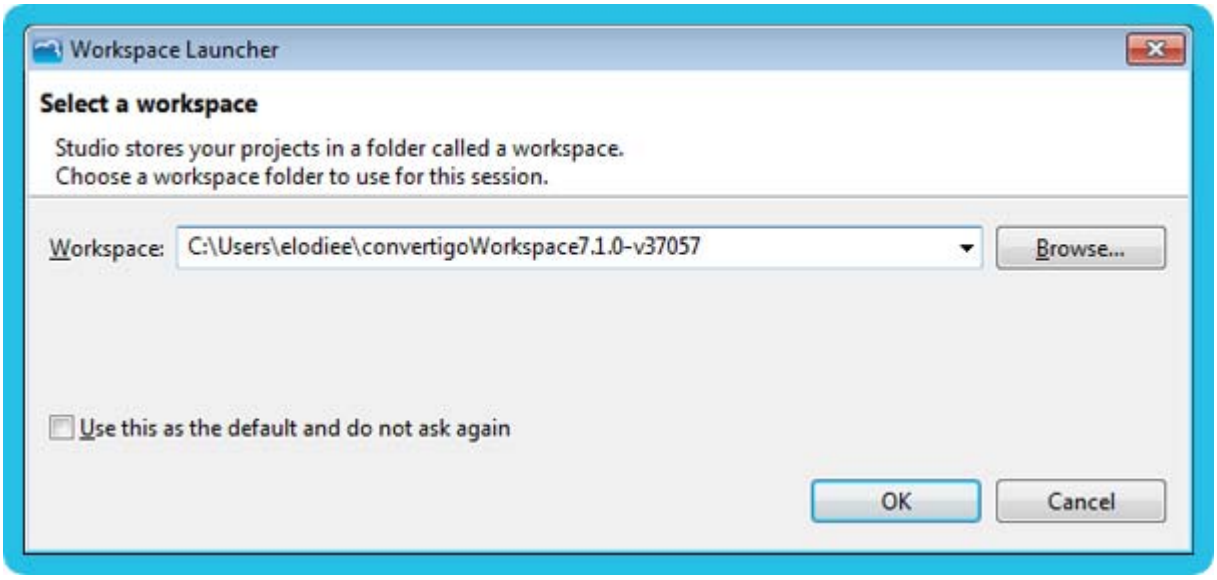


Figure 2 - 11: Workspace launcher

2 In this screen, indicate the location of your projects workspace, set by default to your user environment.

For more information on Convertigo workspace and projects workspace, see Appendix "Convertigo workspace" on page A-2.

Beware that you must choose a folder where you have writing rights. Otherwise, you will not be able to restart the Studio on this same workspace.

3 Check the **Use this as default and do not ask again** checkbox if you do not want to see the *Workspace Launcher* popup at next startup:

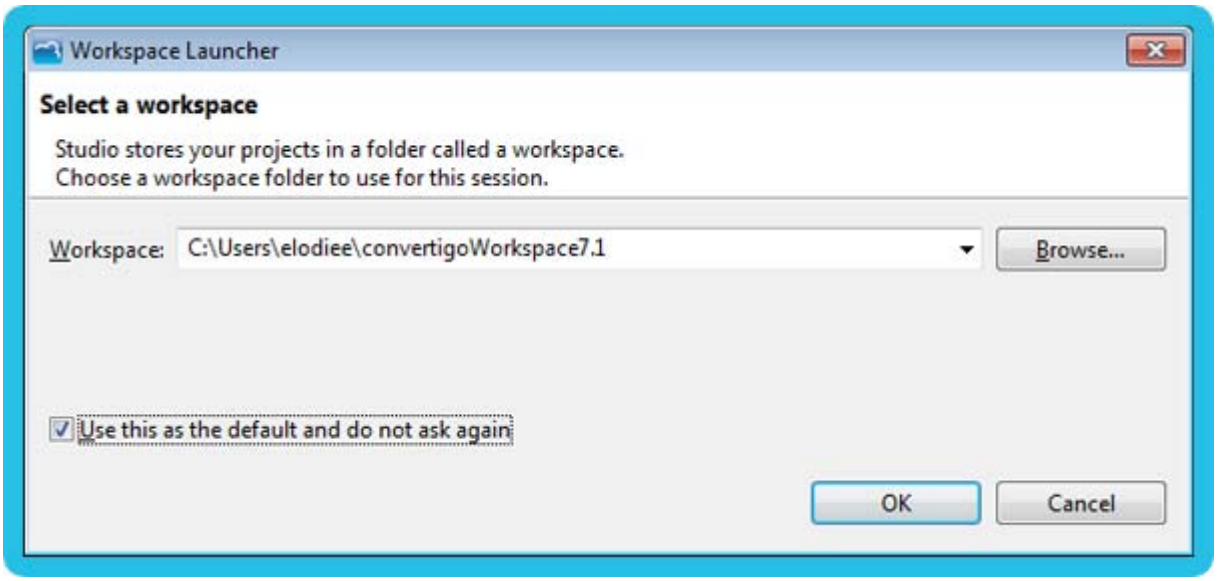


Figure 2 - 12: Updated values in Workspace Launcher

4 Click on the **OK** button.

The Studio starts and a wizard is opened:

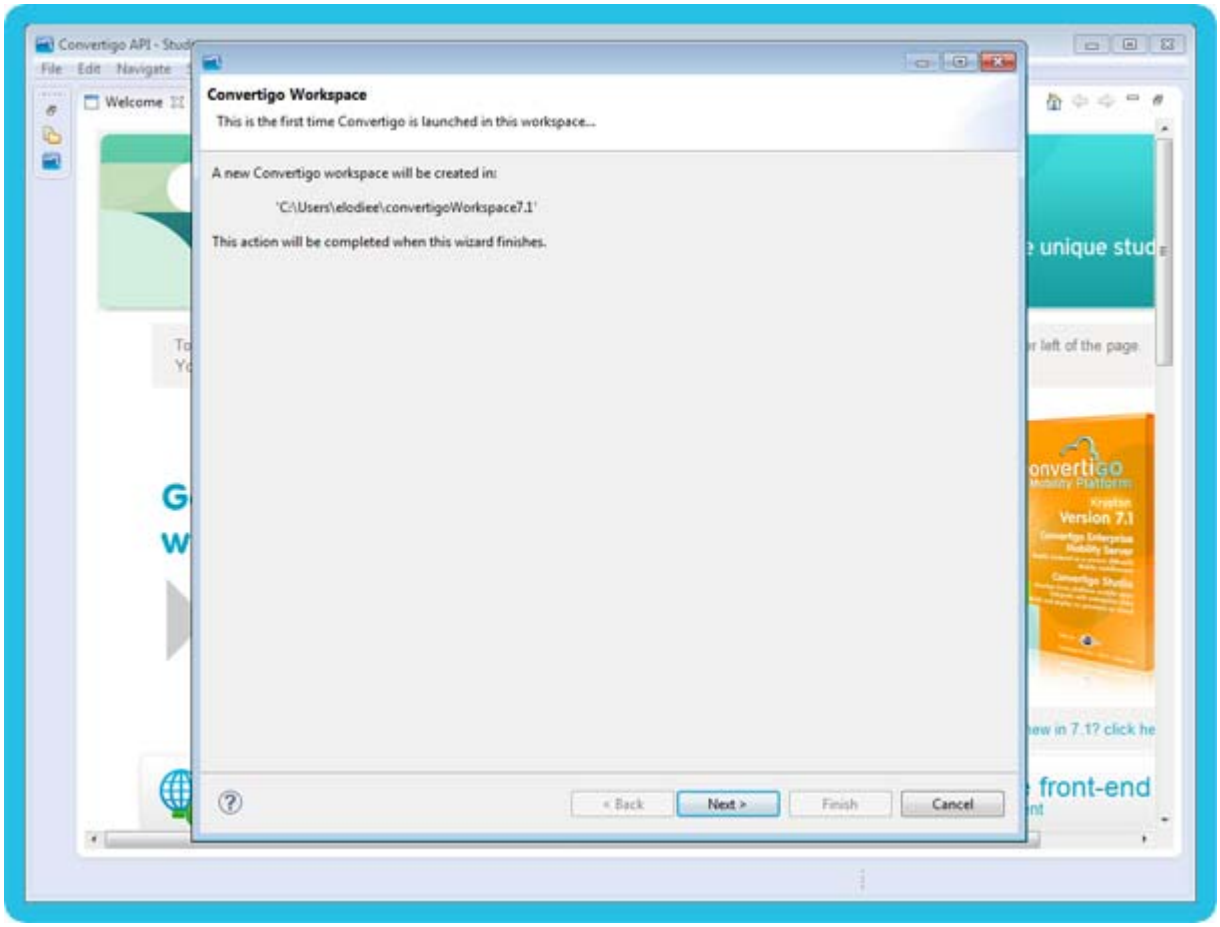


Figure 2 - 13: First Studio start - Starting wizard

This is the **Convertigo Studio Configuration** wizard. You have to go through this wizard before the Studio engine starts.

For Windows environment, continue with step 6 of this procedure.

For Linux and Mac OS environments, the first page of the wizard is the End User Licence Agreement. You need to carefully read the EULA and accept it before the Studio starts:

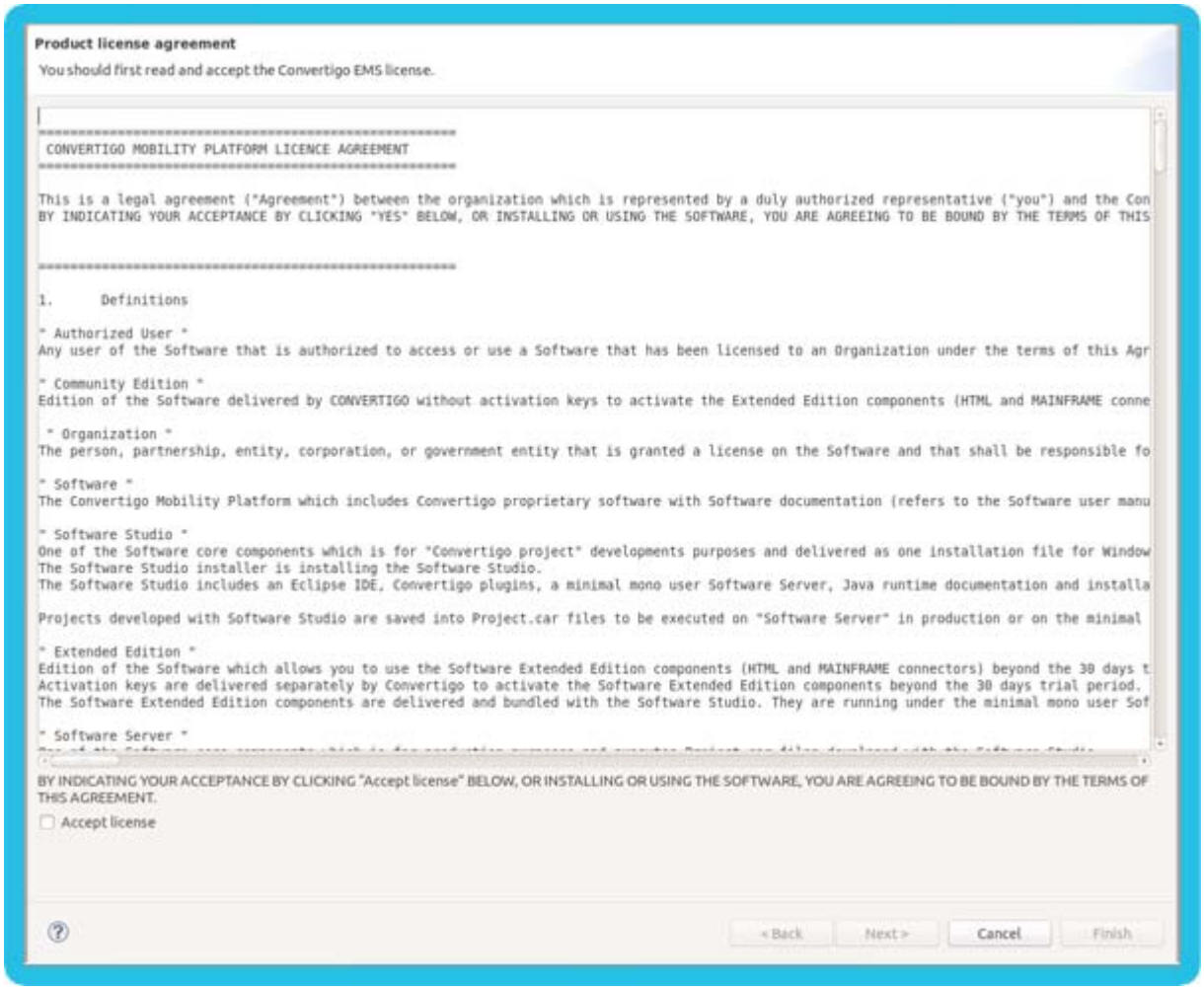


Figure 2 - 14: First Studio start - EULA on Linux or Mac

5 Select the **Accept license** option, and click on **Next**.

6 The next page displays a summary about the workspace (workspace that was chosen in the *Workspace Launcher* window). Depending on the selected path:

- if the selected folder does not exist or is empty: a new workspace will be created,
- if the selected folder is a previous Convertigo workspace created with a Convertigo prior to version 6.2.0: the workspace will be migrated,
- if the selected folder is a previous Convertigo workspace created with a Convertigo from version 6.2.0: the workspace will be used as is. In this case, several pages of the wizard may not be displayed because the workspace is reused.

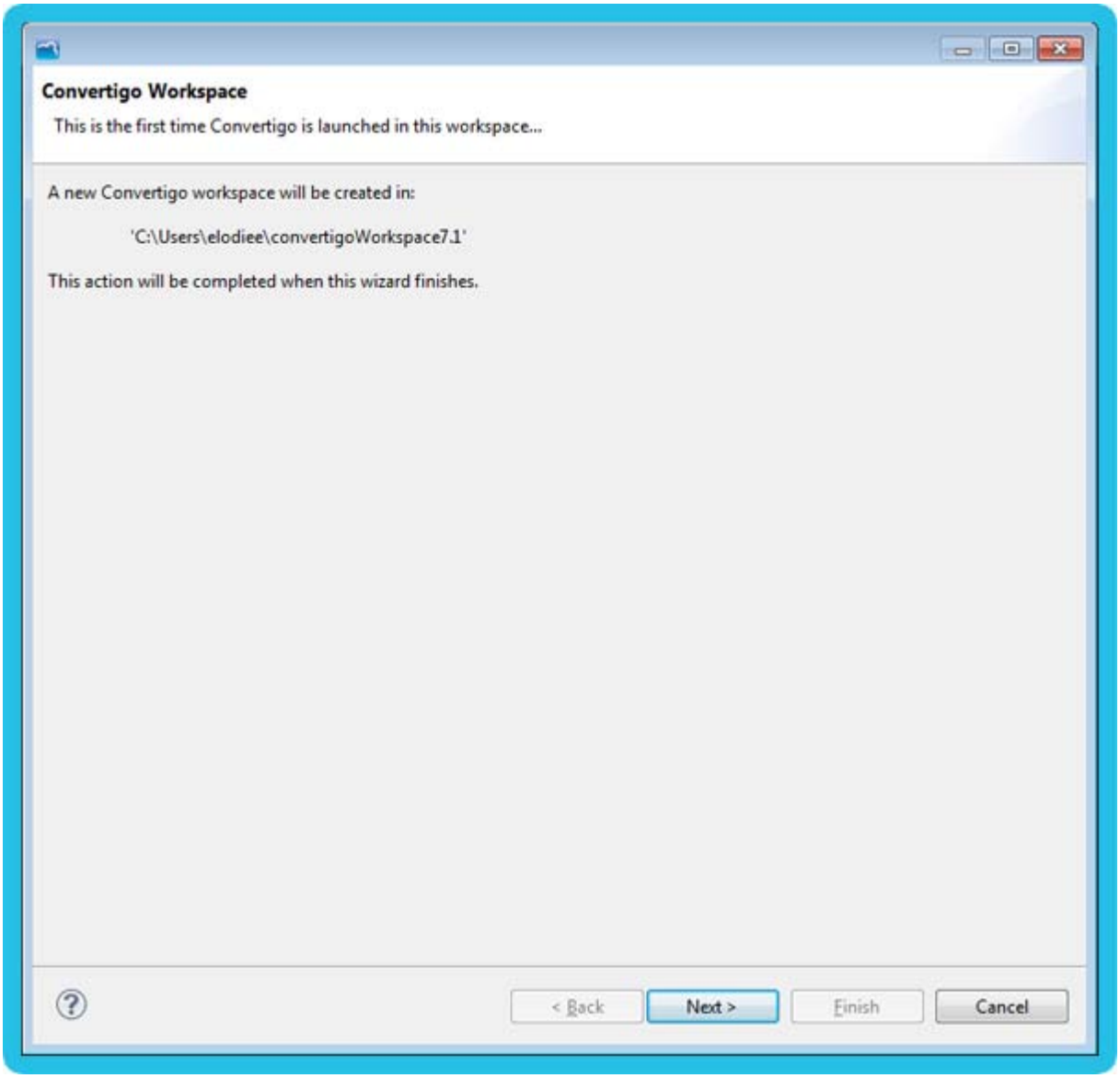


Figure 2 - 15: Studio starting wizard - Convertigo workspace

7 If the summary does not fit your needs, click on **Cancel** and restart this procedure from step 1.

8 Otherwise, click on **Next**.

The next page allows you to configure a proxy for Convertigo Studio to access the Internet:

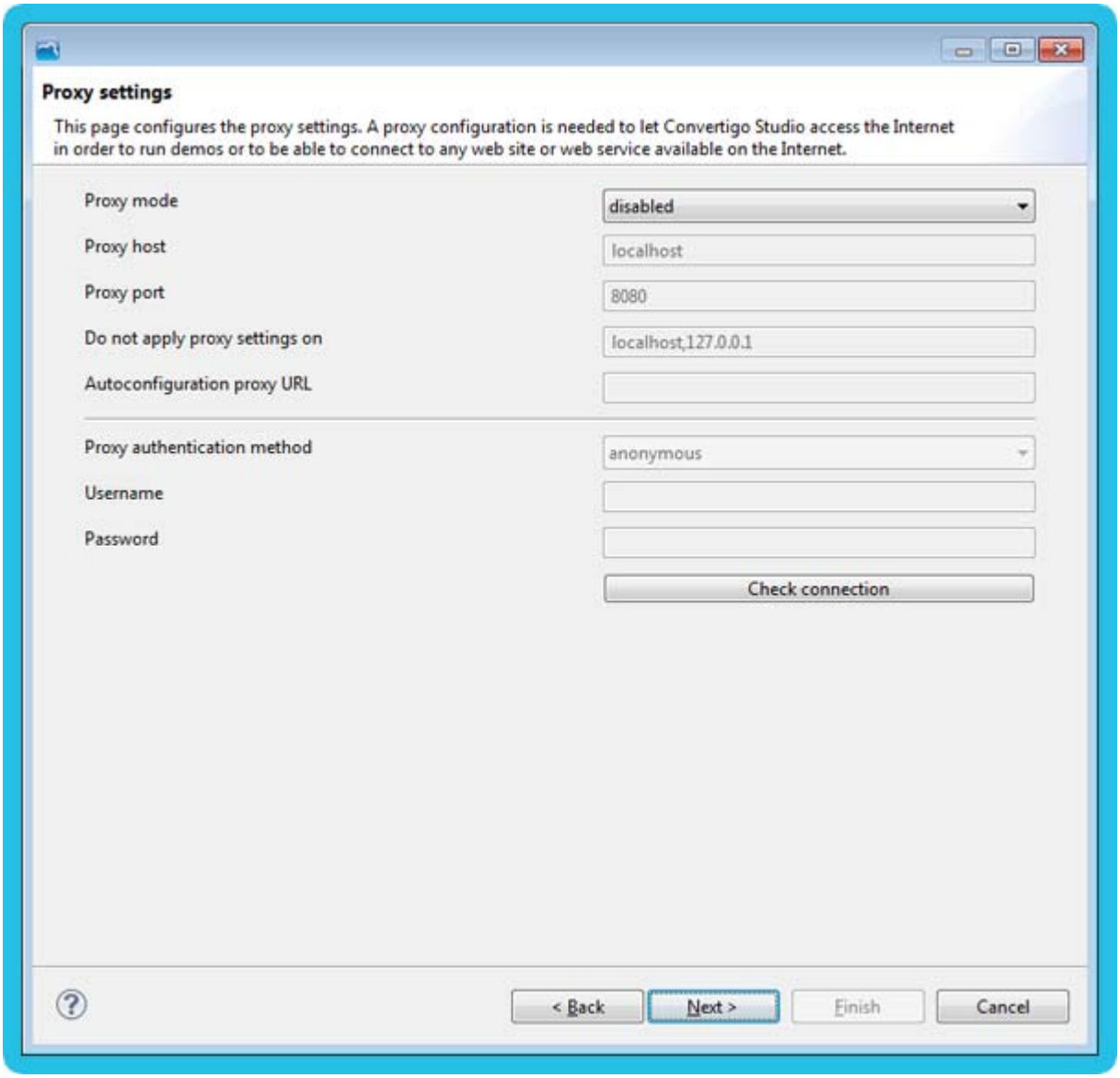


Figure 2 - 16: Studio starting wizard - Proxy settings

9 If you need to use a proxy, configure your proxy settings in this page.

For more information about Convertigo proxy settings, see "Proxy" on page 4-24. This page explains the Convertigo Engine configuration properties about proxy. Settings found in this wizard page are the same.

10 You can test the connection by clicking on the **Check connection** button. A message indicates that the connection test is in progress:

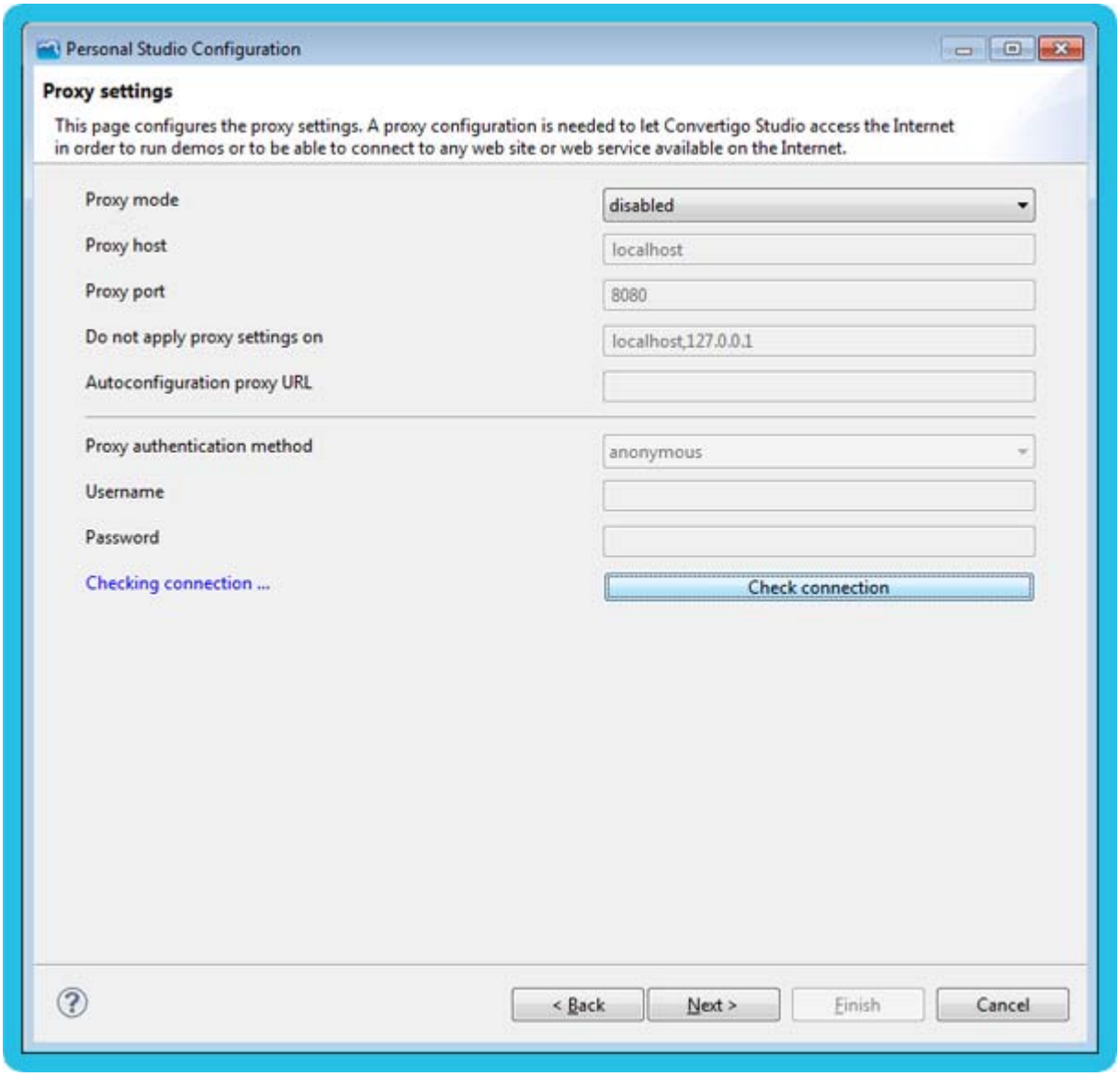


Figure 2 - 17: Studio starting wizard - Testing connection

After the test is finished, a message is displayed indicating whether the connection is successful or not:

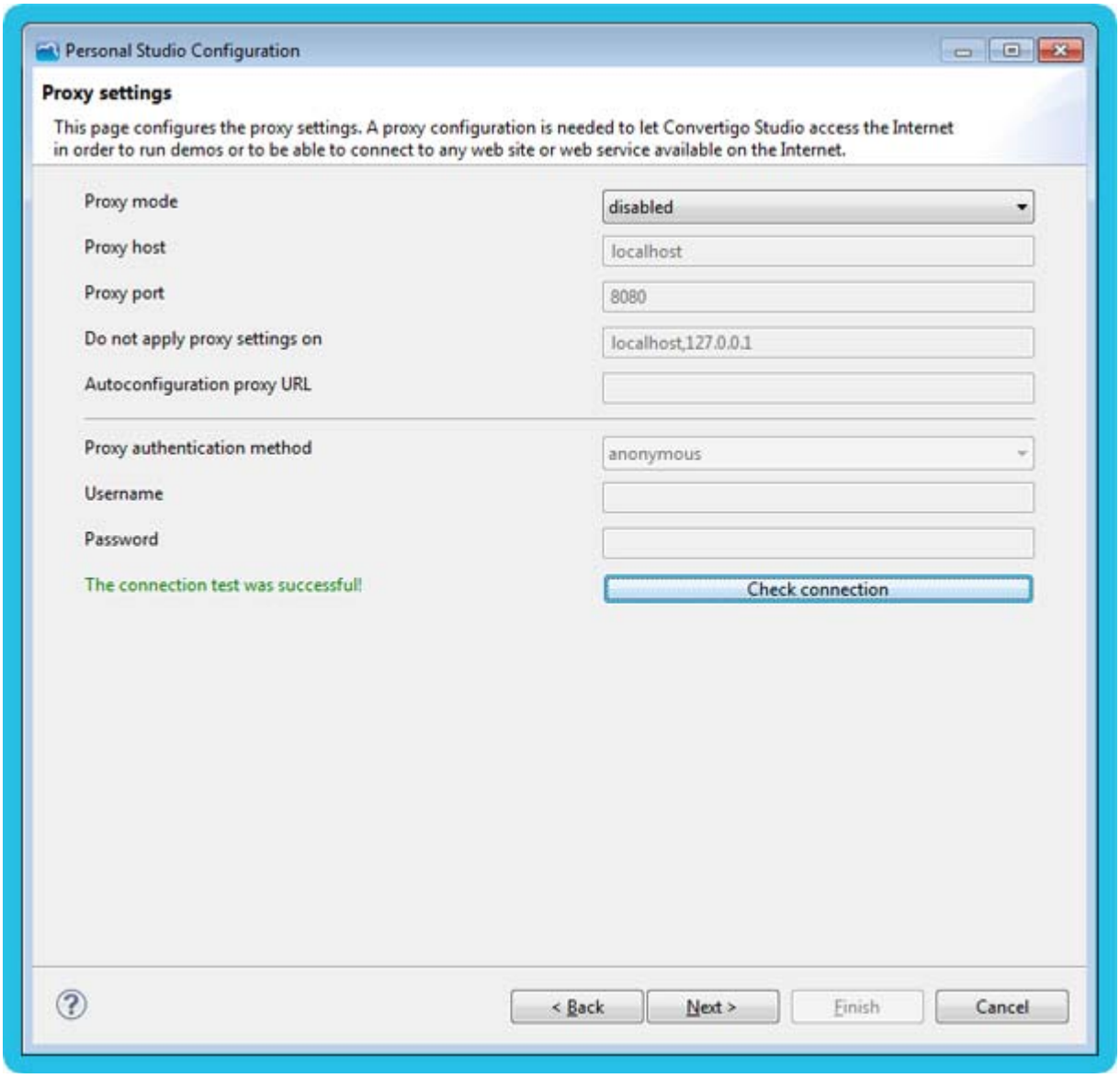


Figure 2 - 18: Studio starting wizard - Successful connection test

11 If the connection is not successful, configure correctly your proxy settings (start over from step 9 of this procedure).

12 Otherwise, click on **Next**.

The next page asks if you already have a Personal Studio Configuration.

A Personal Studio Configuration is an encrypted string that will automatically configure your Convertigo Studio with projects deployment configurations.
By registrating on this wizard, you will be granted a free access to Convertigo Trial Cloud and will get a PSC with a default deployment configuration to this shared Cloud server.

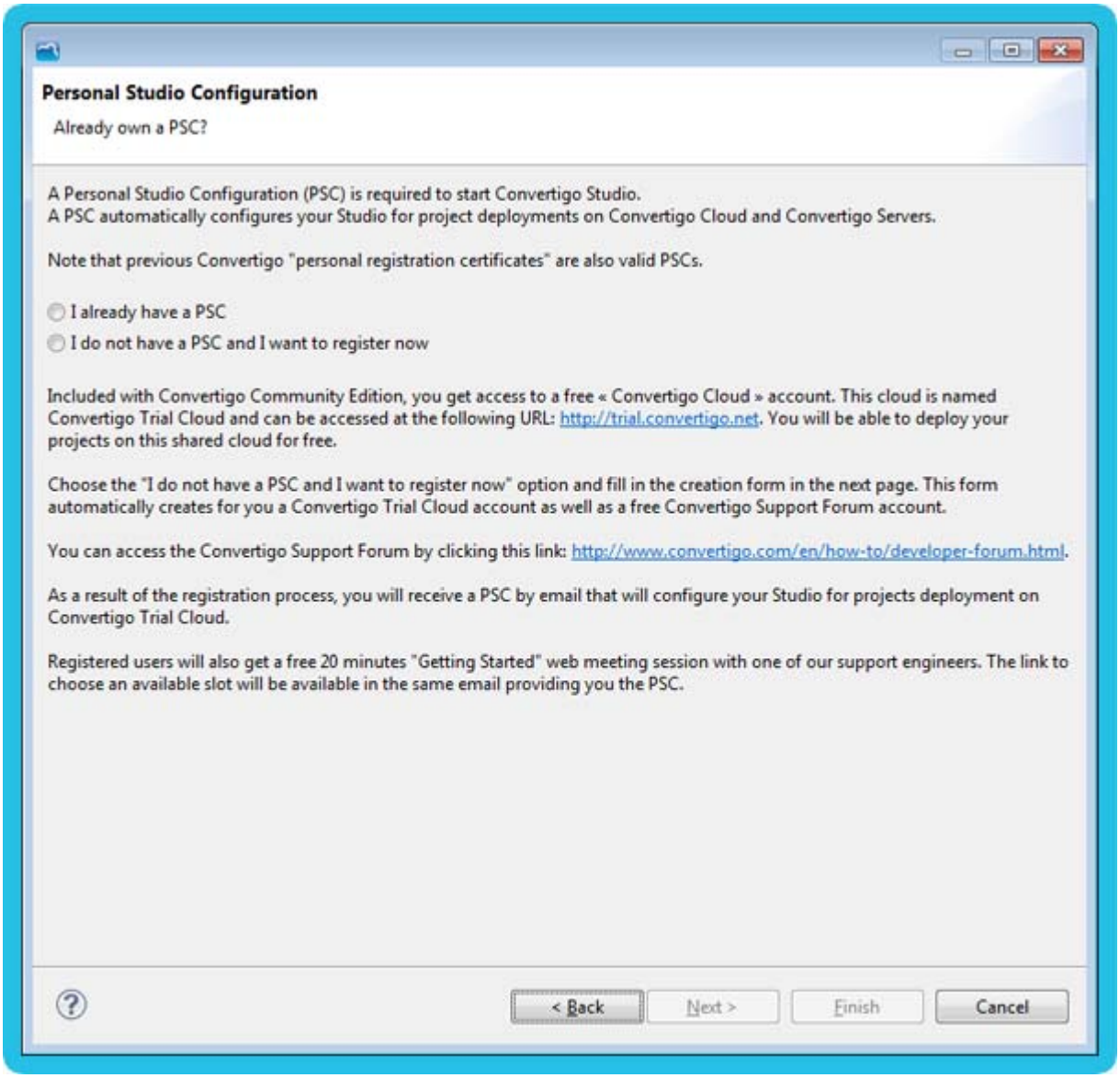


Figure 2 - 19: Studio starting wizard - Personal Studio Configuration

On this page, several options are possible:

Case of an already registered Studio user

If you were already registered in a former version of Convertigo and you already had a *registration certificate* for deploying your projects on Convertigo Trial Cloud (see Figure 2 - 20), or if you already got a *Personal Studio Configuration* by registrating in Convertigo 6.2.x or 6.3.x (see Figure 2 - 28), you do not need to register again.

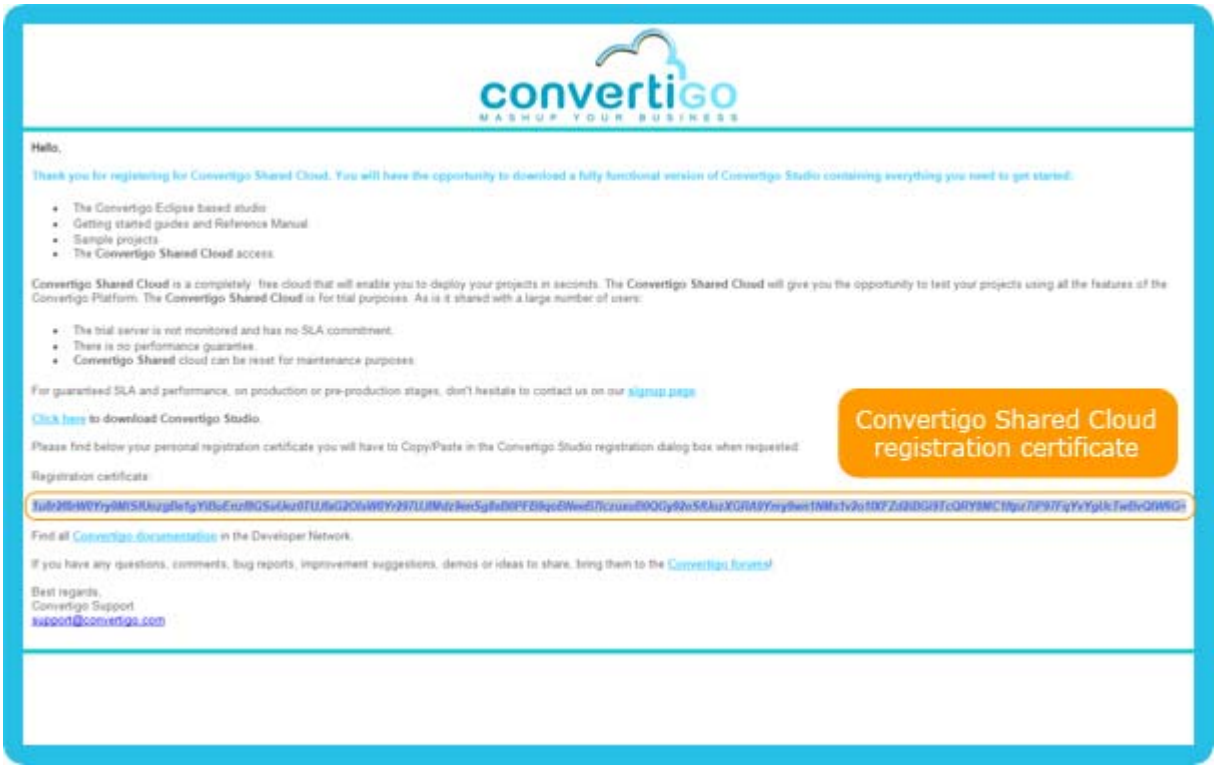


Figure 2 - 20: Example of former registration certificate email

Continue with the procedure *"To configure Convertigo Studio with a PSC or a registration key"* on page 2-31.

Case of a new Convertigo Studio testing user, you have to register now

You do not have a registration key nor a PSC, you have to register in the **Studio Configuration** wizard to get one. Thanks to that, you will be granted:

- a free access to Convertigo Trial Cloud,
- an account in the Convertigo Forum to get some tips and tricks,
- and a free 20 minutes "Getting Started" web meeting session.

Continue with the procedure *"To register on Convertigo Trial Cloud"* on page 2-24

Case of a Convertigo Cloud client

If you ordered for a Convertigo Cloud server, you should have an email with the URL and username/password of your Convertigo Cloud server administration, as well as a Personel Studio Configuration. You do not need to register again in this wizard. Continue with the procedure *"To configure Convertigo Studio with a PSC or a registration key"* on page 2-31.

To register on Convertigo Trial Cloud

1 In the Personal Studio Configuration page of the **Studio Configuration** wizard (see Figure 2 - 19), select the **I do not have a PSC and I want to register now** option, and click on **Next**.

The next page proposes a form to create your Convertigo Trial Cloud account as well as a Forum account, and get your PSC:

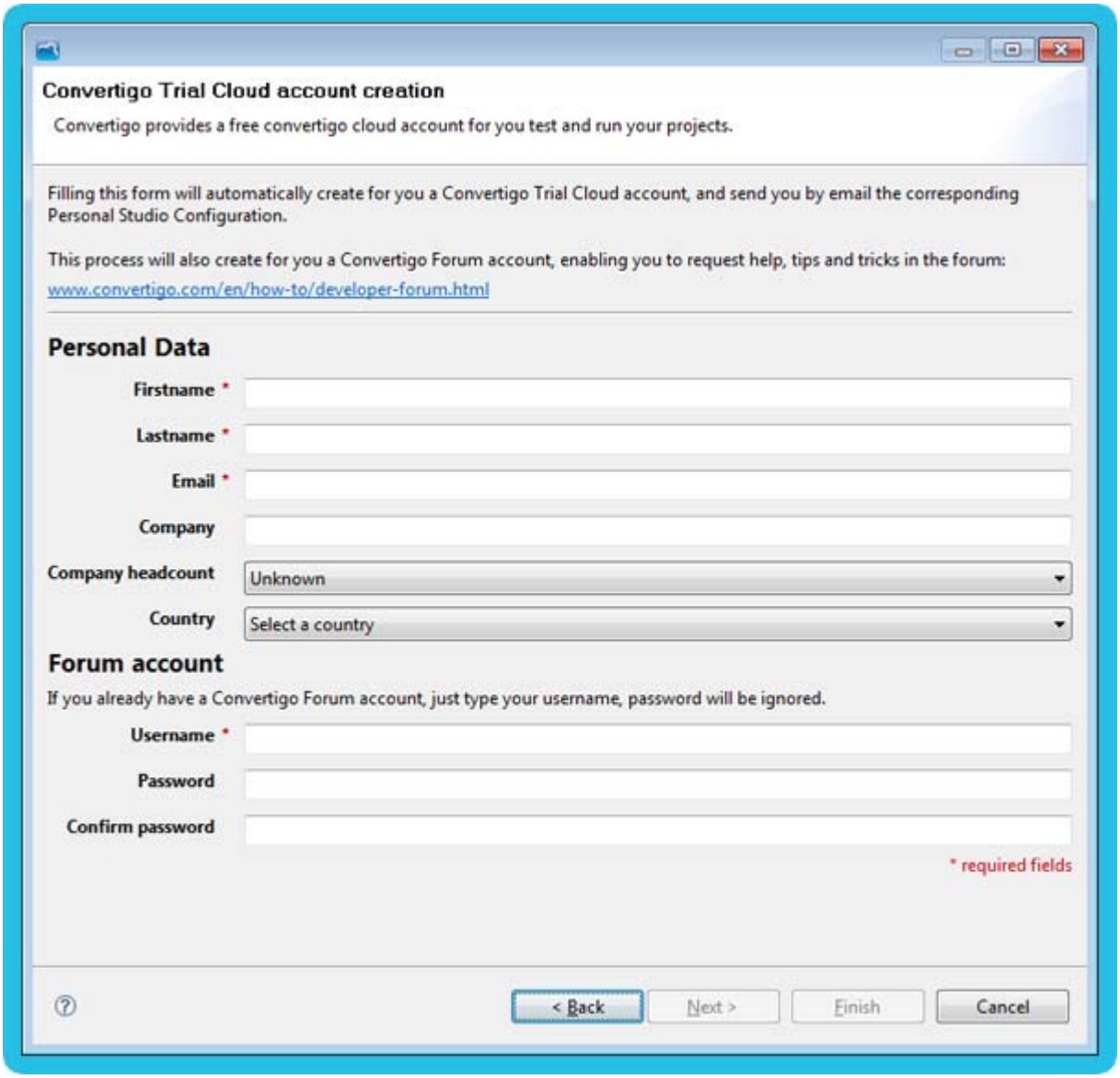


Figure 2 - 21: Studio starting wizard - Convertigo Trial Cloud account creation

2 Fill the fields with the required personal data and the fields about your Convertigo Forum account.

Beware that if you do not fill the form with correct information, you will not be able to go though the process.

After the form is filled, the **Next** button is enabled:

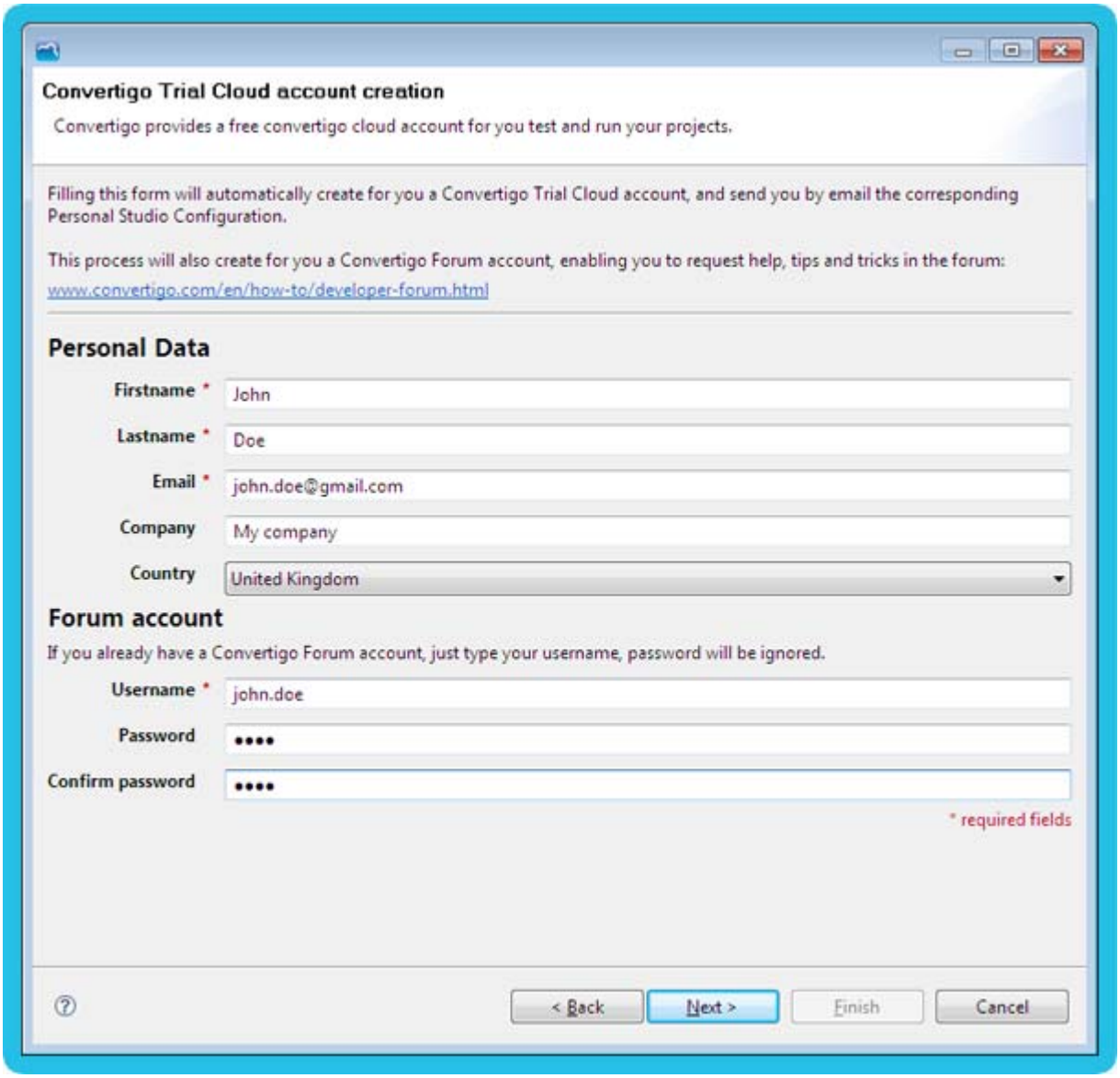


Figure 2 - 22: Studio starting wizard - Filling registration form

3 Click on **Next**.

The next page sends your registration information and proposes a text area into which you should paste your PSC (see Figure 2 - 29).

In the same time, you should receive a first email that invites you to click on a validation link to continue the Convertigo Trial Cloud registration process:

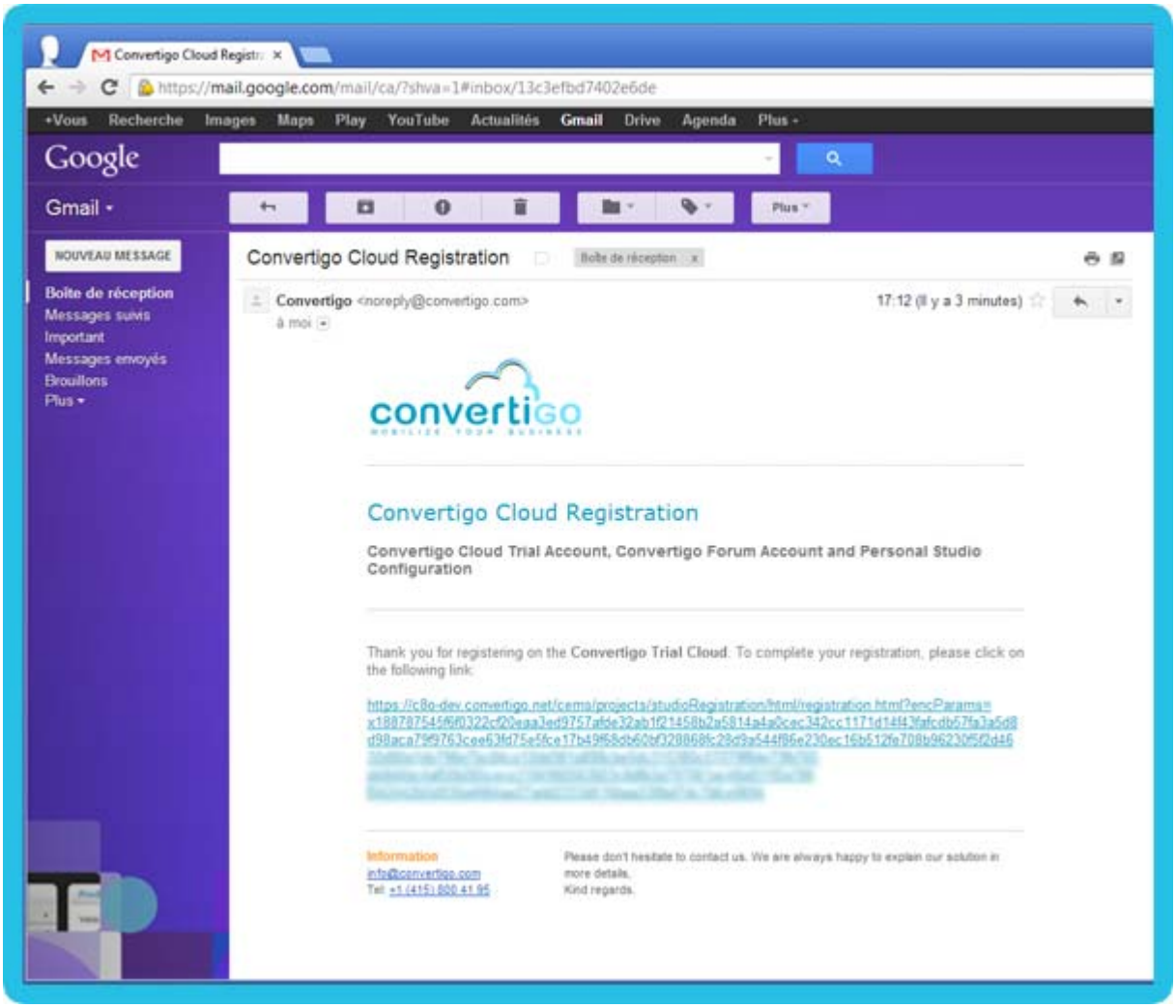


Figure 2 - 23: Registration process - Validation email

4 Click on the validation link that appears in blue in the email.

A new page opens in your web browser, with the Convertigo Trial Cloud registration process in progress:

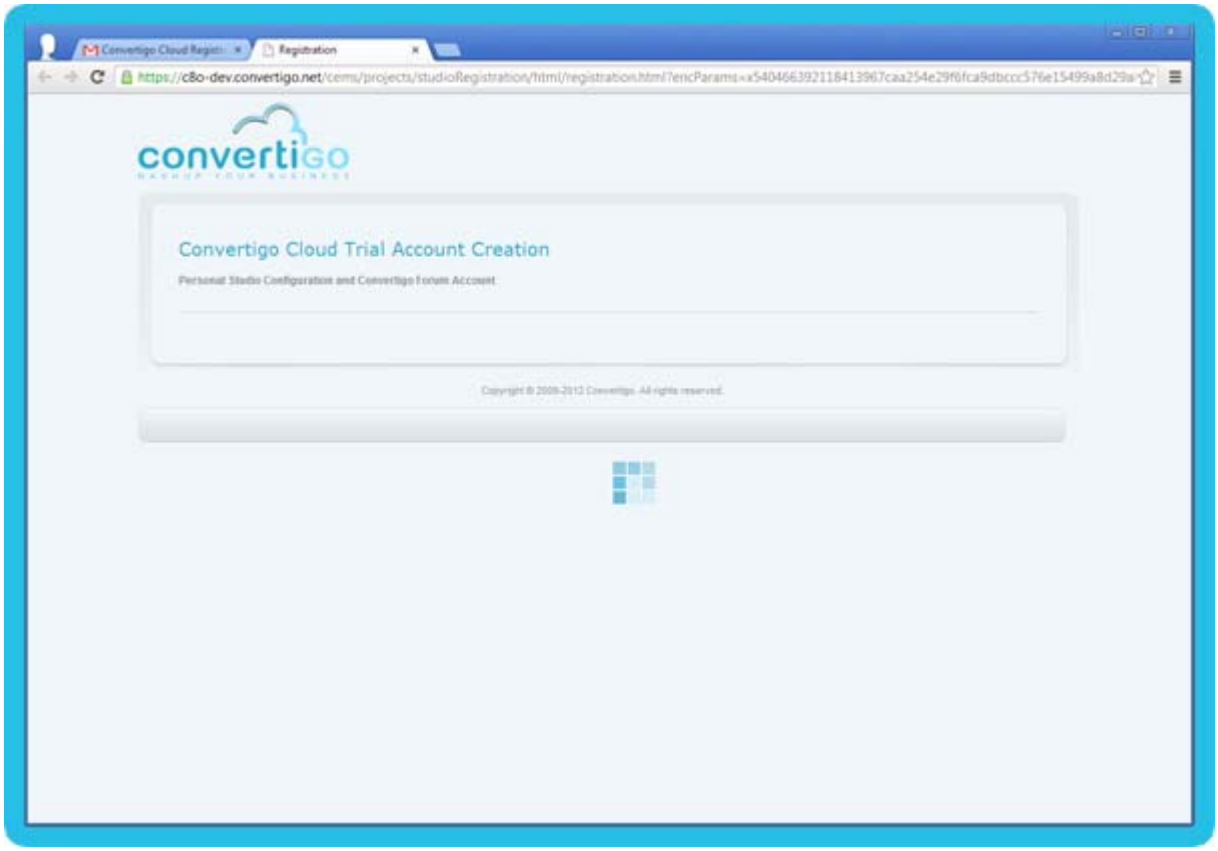


Figure 2 - 24: Registration process - In progress

When the process ends, the Convertigo Trial Cloud registration response is displayed. It can be of several forms, depending on the success of the PSC declaration and Forum account creation:

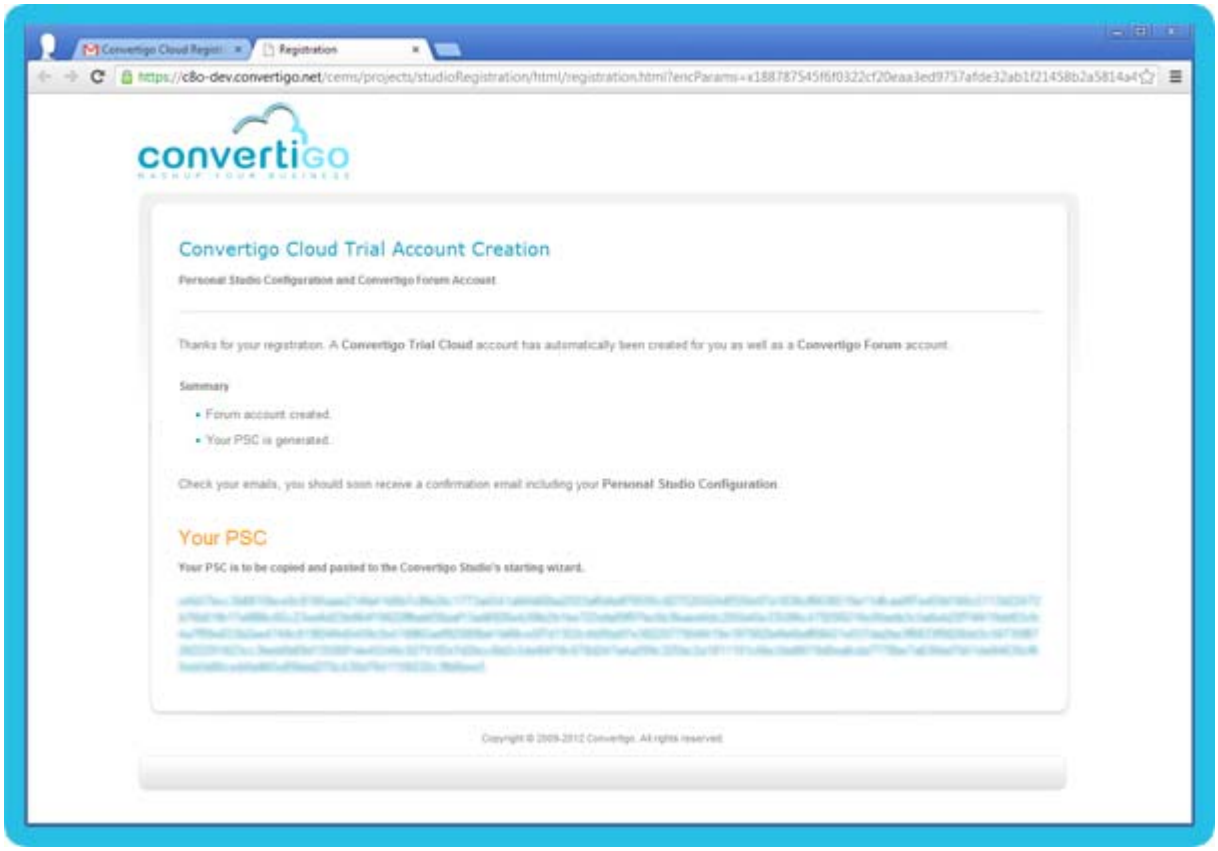


Figure 2 - 25: Registration process - Response after correct registration

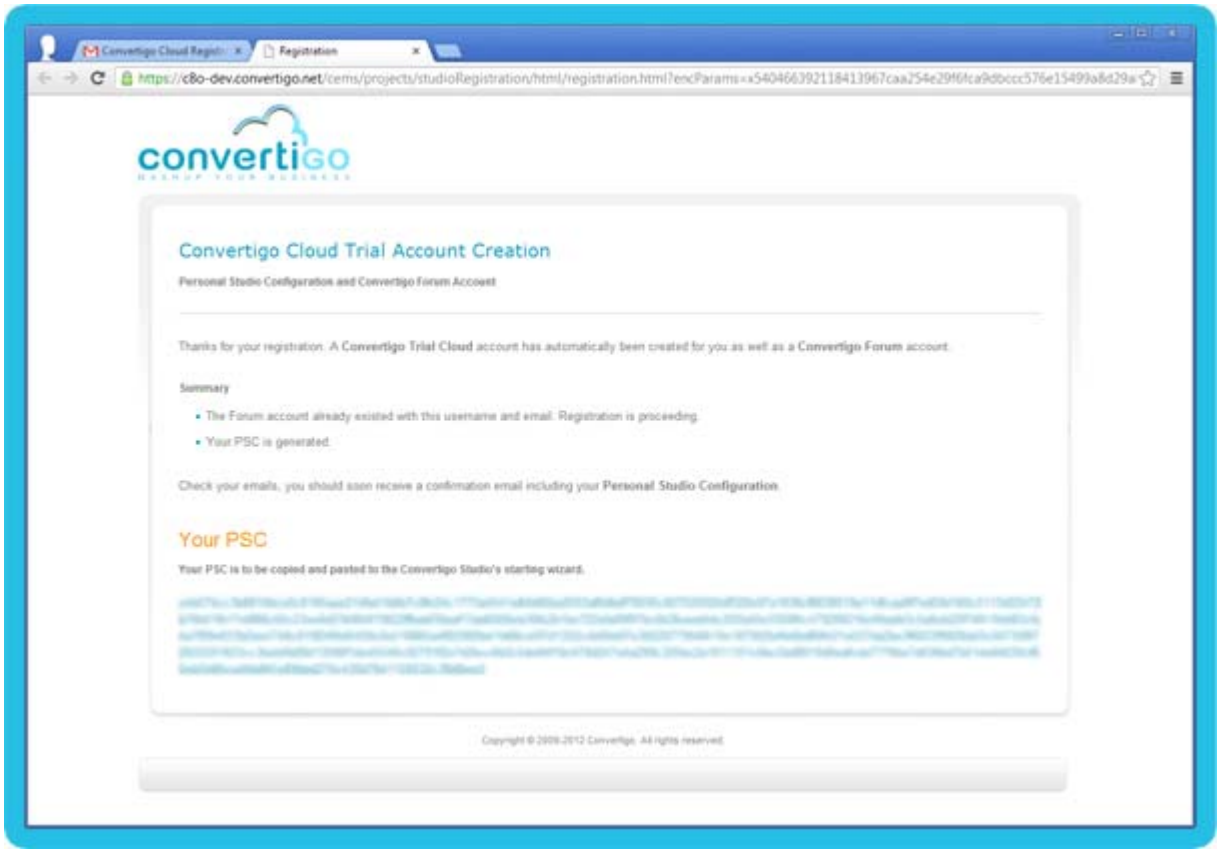


Figure 2 - 26: Registration process - Response after existing forum account and correct PSC generation

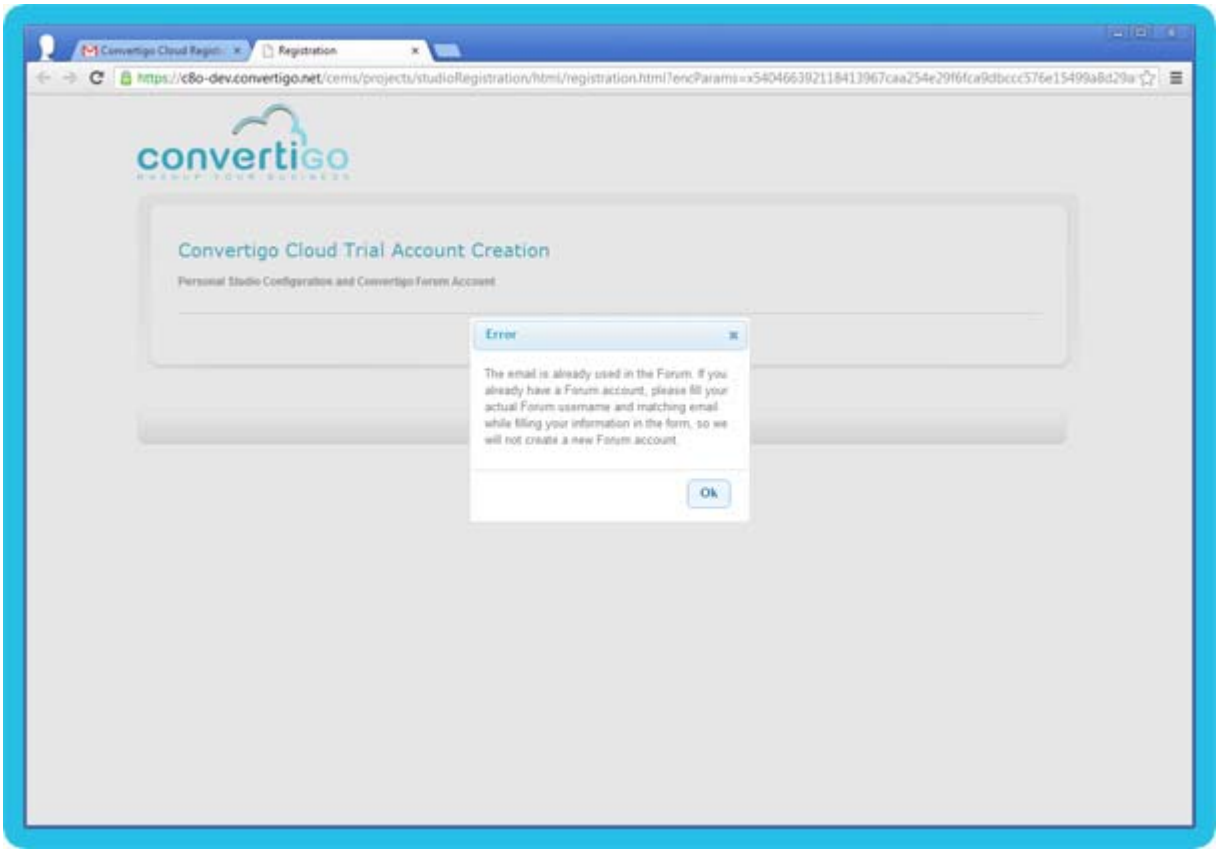


Figure 2 - 27: Registration process - Response after wrong forum account declaration

5 Depending on the case:

- Click on **Ok** to close the error popup, and fill again the registration form in the web browser (displayed after clicking on **Ok**) or in the **Studio Configuration** wizard (after pressing the **Back** button); restart this procedure on step 2.
- Copy your PSC from the response page and paste it into the wizard page; follow procedure *"To configure Convertigo Studio with a PSC or a registration key"* on page 2-31, from step 2.

At the same time, you received an email that summarizes the registration response, so you can keep your PSC for a further Studio installation:

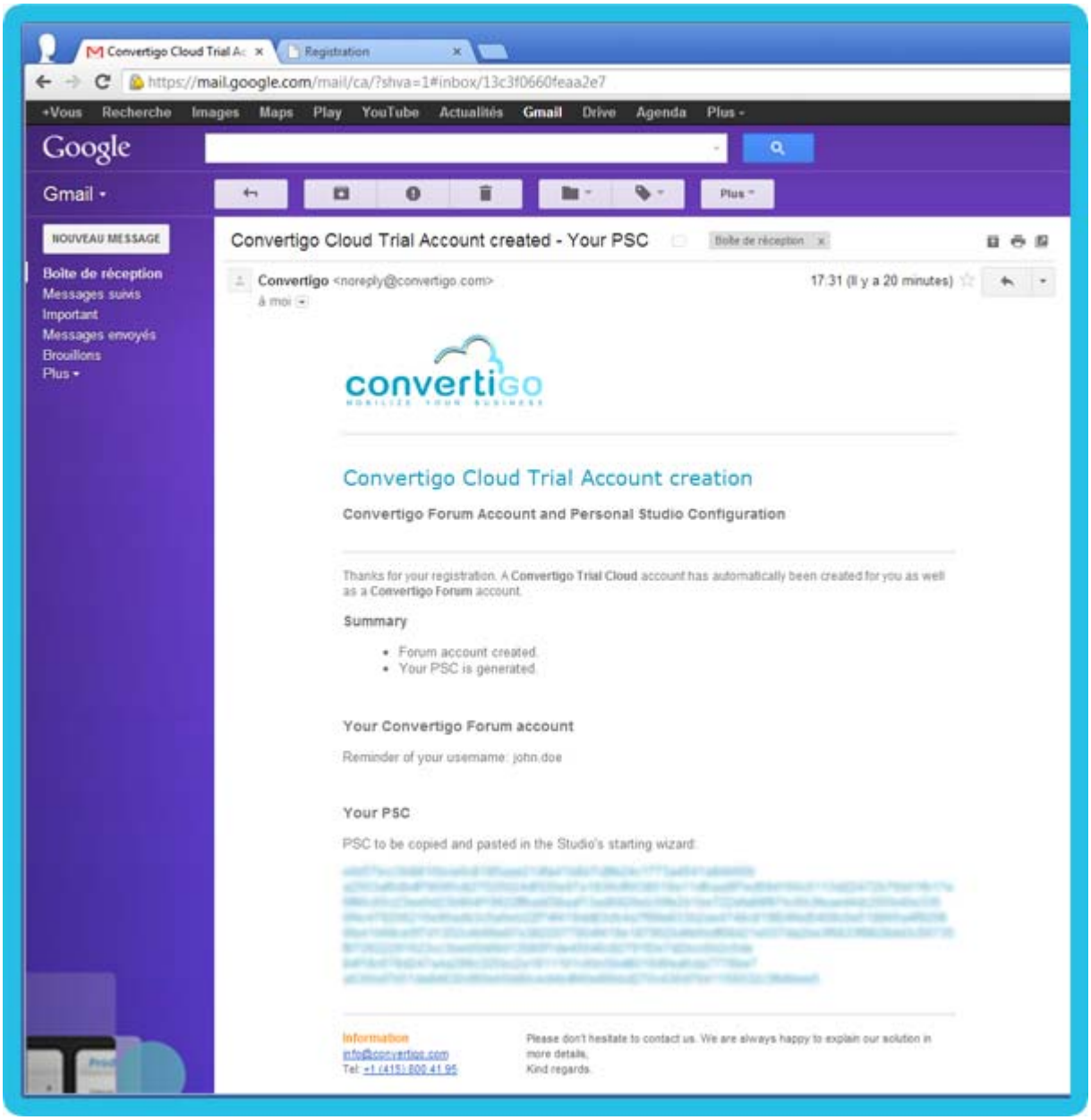


Figure 2 - 28: Registration process - Email with registration response summary

6 Continue with procedure *"To configure Convertigo Studio with a PSC or a registration key"* on page 2-31, from step 2.

To configure Convertigo Studio with a PSC or a registration key

1 In the Personal Studio Configuration page of the **Studio Configuration** wizard (see Figure 2 - 19), select the **I already have a PSC** option, and click on **Next**.

The next page proposes a text area into which you should paste your PSC or your former registration certificate (received by email):

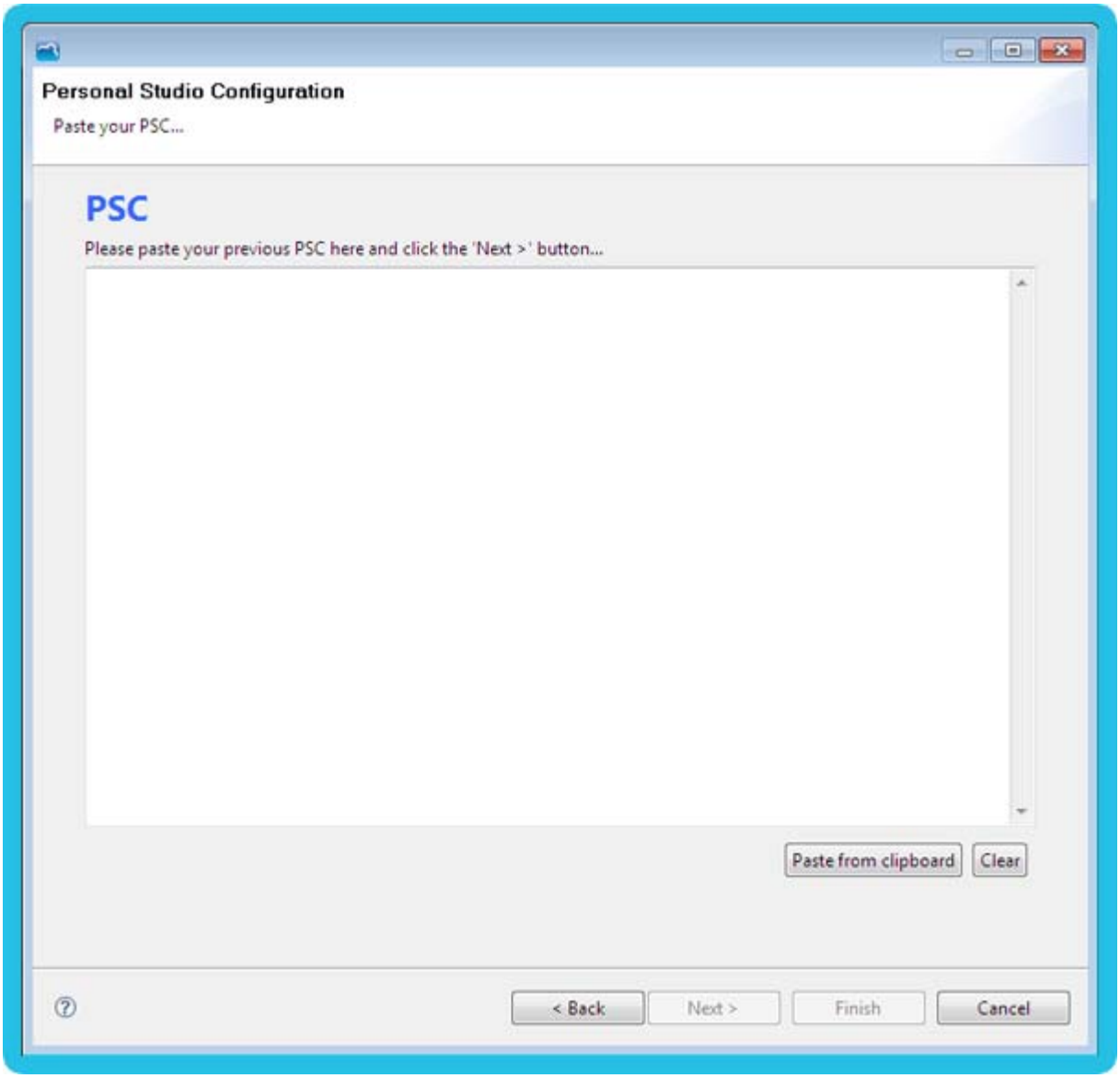


Figure 2 - 29: Studio starting wizard - Personal Studio Configuration

2 In the **PSC** text area, copy and paste your former registration certificate or your Personal Studio Configuration:

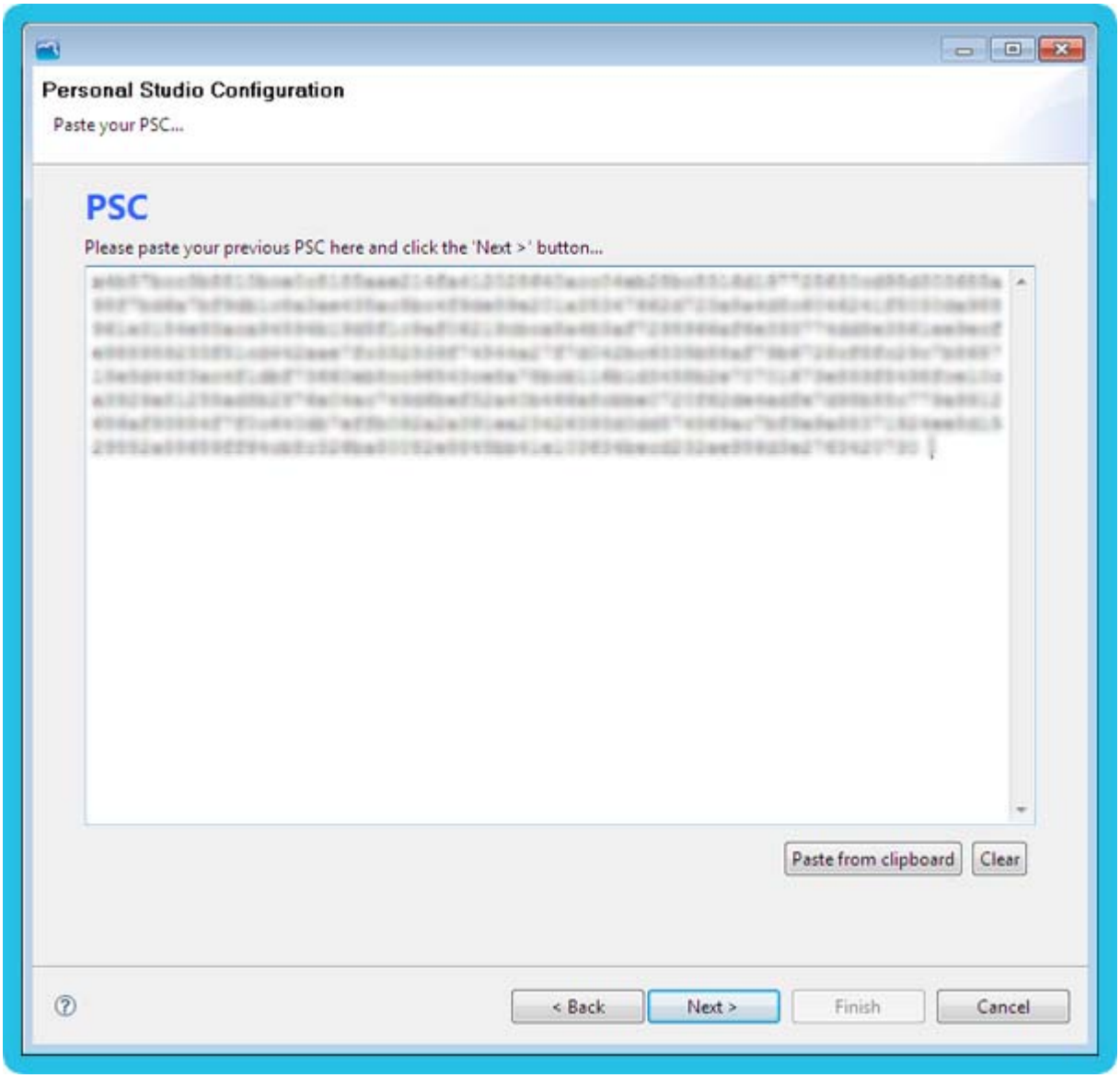


Figure 2 - 30: Studio starting wizard - Filling in your PSC

If the PSC or the registration certificate is not valid, the wizard indicates an error message:

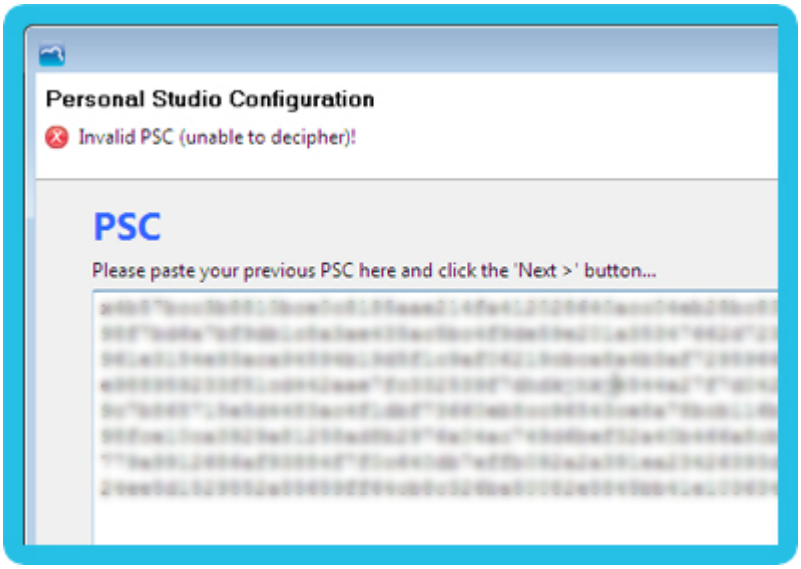


Figure 2 - 31: Studio starting wizard - Invalid PSC

3 Otherwise, the **Next** button is enabled, click on this button to continue.

A **Setup summary** page is displayed, it shows all steps that are going to be performed at finish:

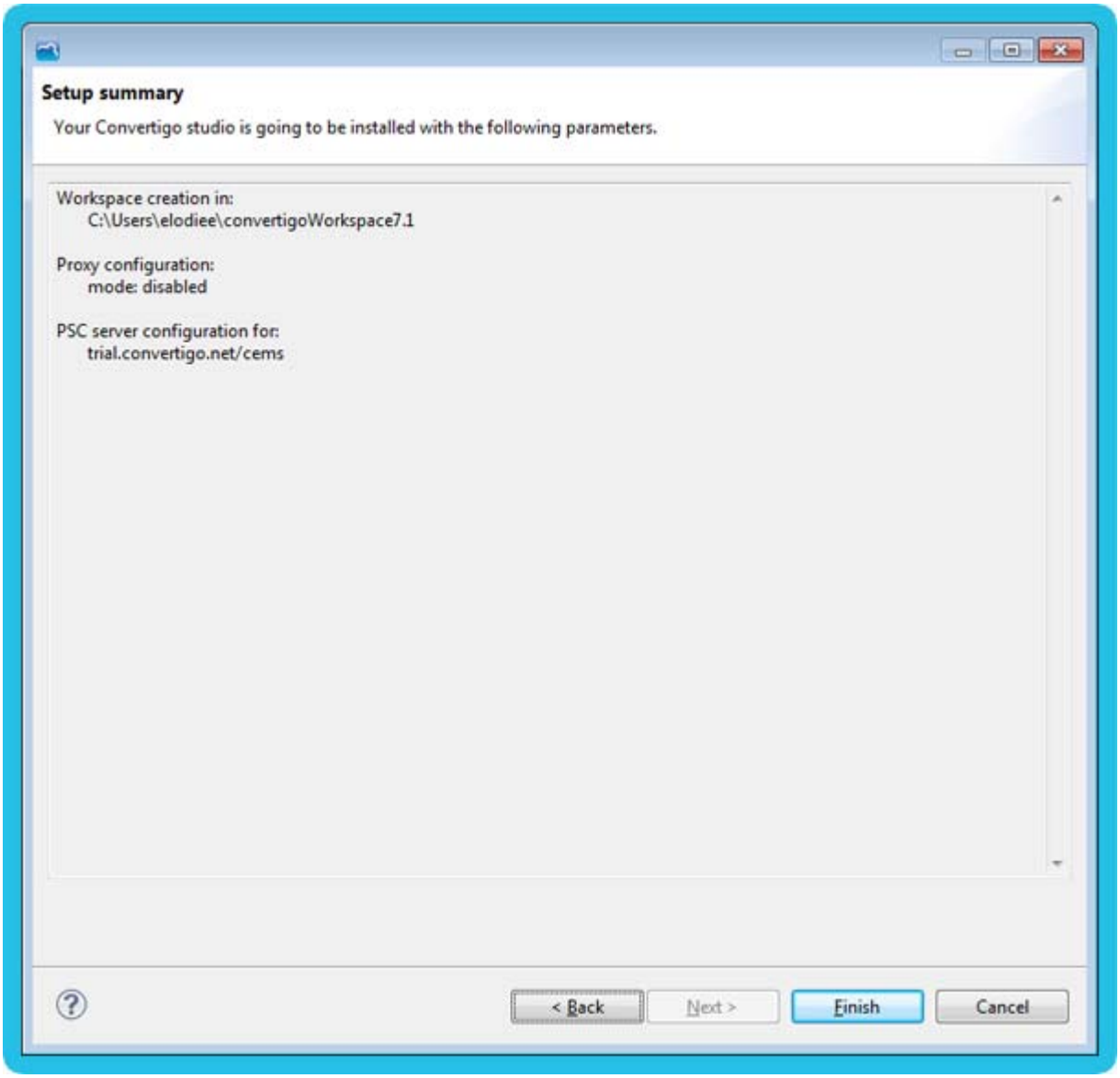


Figure 2 - 32: Studio starting wizard - Setup summary

4 Click on the **Finish** button if all the configurations displayed on this page are correct. Otherwise, click on **Cancel** and restart the procedure *"To start and configure Convertigo Studio on Windows/Linux/Mac OS"* on page 2-15, from step 1.

After the wizard is complete, The Studio engine starts.

Sometimes, on Windows environments, a *Windows Security Alert* popup is displayed:

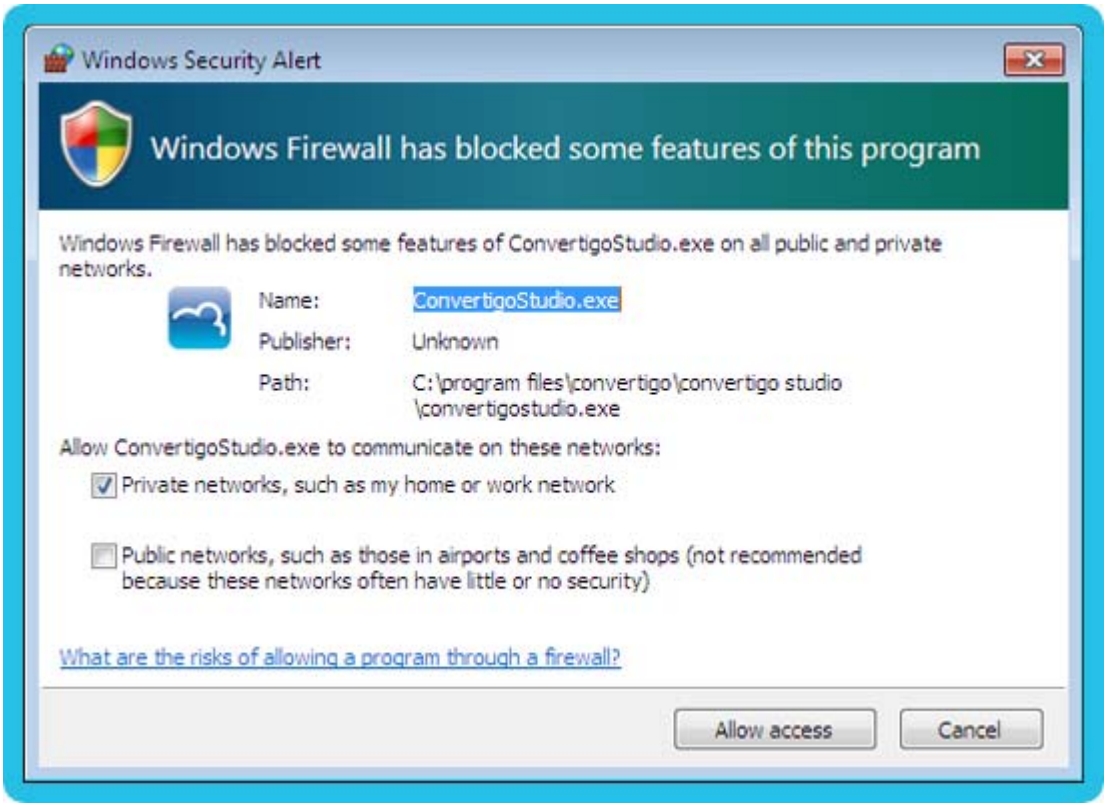


Figure 2 - 33: Windows Security Alert popup

5 In this window, you have to select the type of network you are connected to, this will authorize Convertigo to access the network and the several projects' target applications. Check the appropriate checkbox and click on the **Allow access** button.

While the Convertigo engine is starting, a **Convertigo News** popup is displayed. It shows our latest news (a link for you to access our Facebook page and a list of our latest tweets):

Figure 2 - 34: Convertigo news popup

6 Check the **Dismiss automatically** checkbox if you want this window to be automatically closed on next application startups.

7 Click on the **Close** button.

The Studio is opened, displaying the *Welcome* page:

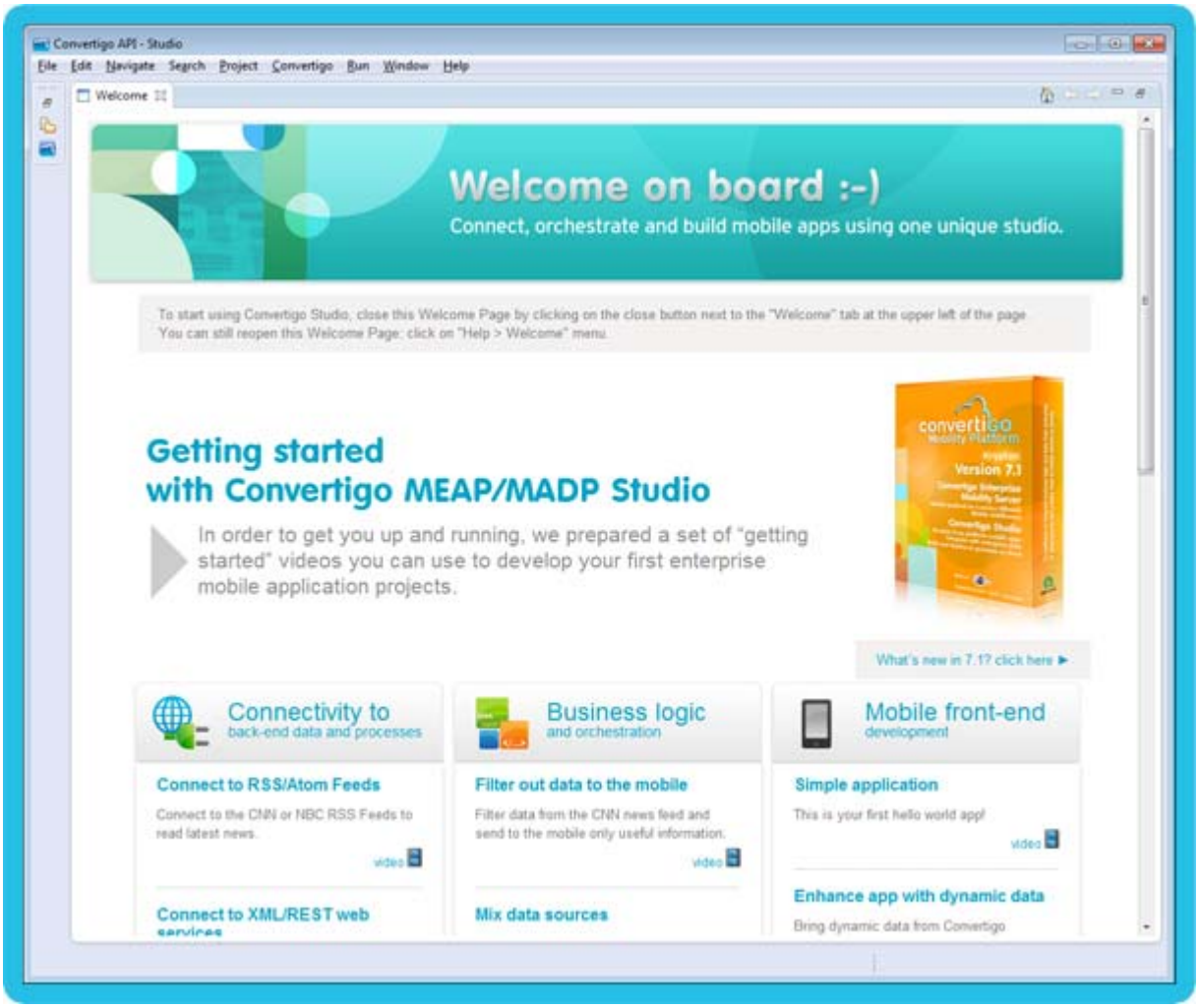


Figure 2 - 35: Convertigo Studio Welcome page

This page contains several tutorial videos organized in three categories:

- Connectivity to back-end data and processes,
- Business logic,
- Mobile front-end.

Do not hesitate to watch these startup videos to understand all capabilities of Convertigo.

On the right top corner of the videos table, you also find a link to the *What's new* page of the Convertigo website.

8 Close this *Welcome* page by clicking on  button.

The Convertigo Studio is started:

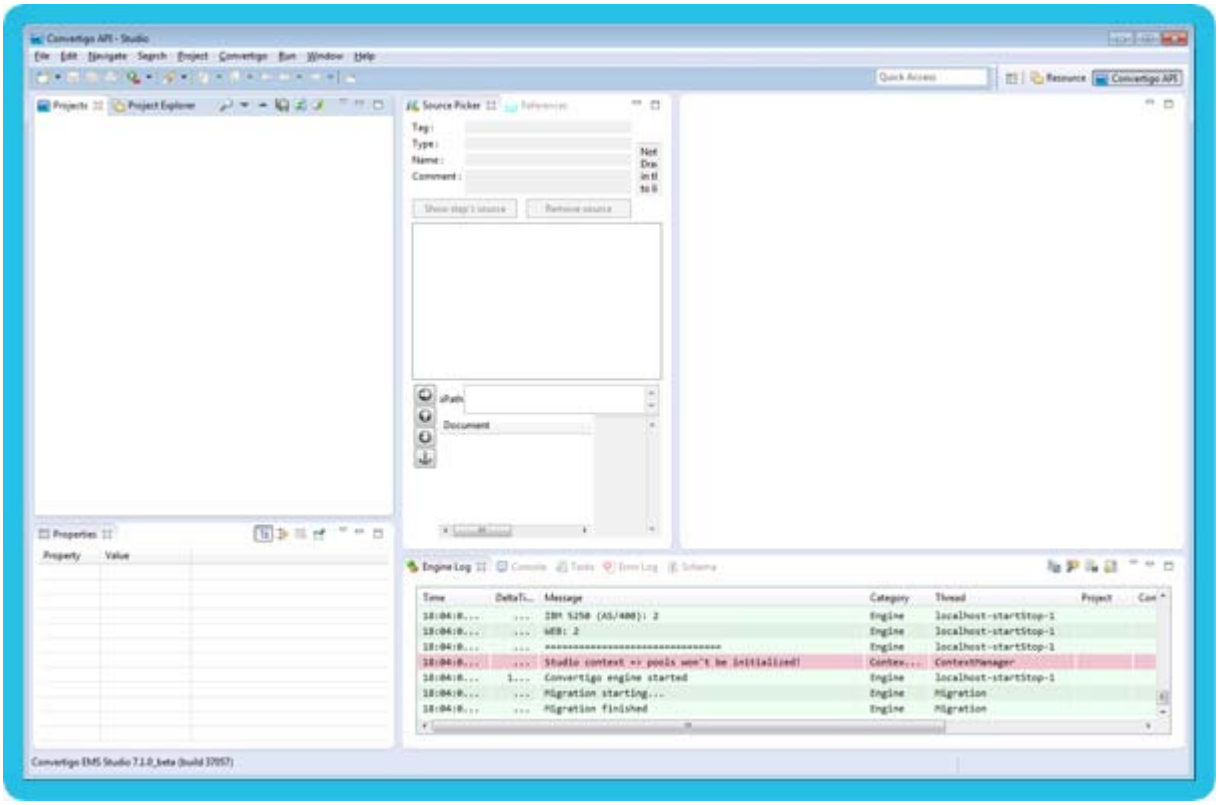


Figure 2 - 36: Convertigo Studio

Convertigo Studio user interface includes two perspectives:

- Convertigo API (opened by default): this perspective will be interesting for developing Convertigo server-side projects,
- Resource: this perspective will be interesting to develop Convertigo client-side application projects (mobile or desktop).

You can easily switch between both perspectives thanks to the two buttons available in the top right corner of Convertigo Studio.

9 The correct launch of the Convertigo engine can be validated by calling the following URL in a Web browser:

```
http://localhost:18080/convertigo
```

- `localhost` is the host name of local machine (as Convertigo Studio is installed locally),
- `18080` is the default HTTP port number of a Convertigo Studio.

The *Test Platform* home page of the Server embedded in Convertigo Studio opens:

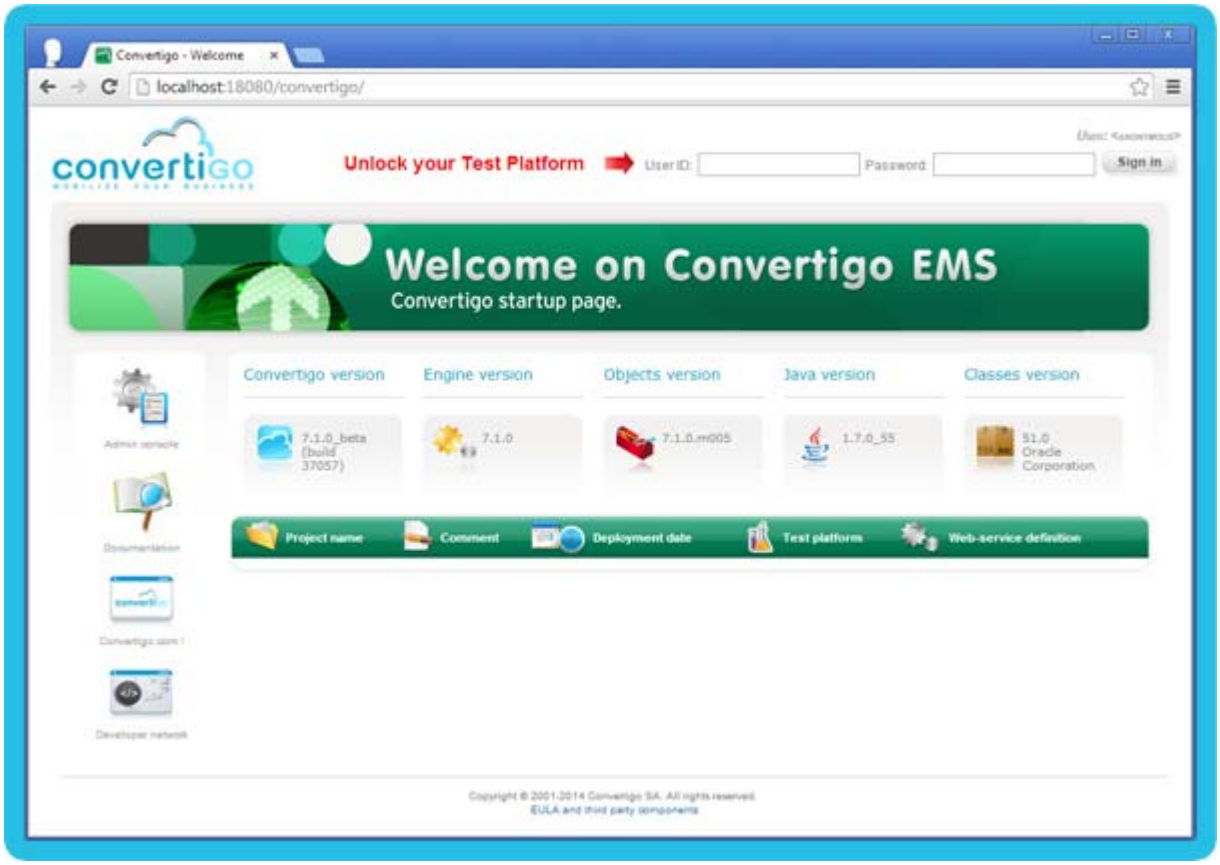


Figure 2 - 37: Convertigo Studio Test PlatformHome page

The page must be filled with data in the *Convertigo Versions* panel. The *Projects list* located below should be empty as no projects are present in the Studio just after installation.

Installing SVN kit in Convertigo Studio

Since Convertigo 7.1.0, SVN kit plugin is not delivered in Studio anymore. Next procedure describes how to install SVN kit plugin for Eclipse in Convertigo Studio.

To install SVN kit in Convertigo Studio

1 In the started Studio, open a sample project. To open a sample project, refer to the *Reference Manual* procedure *"Opening a sample project from the Studio"* on page 1-2. For example, you can choose to open **Convertigo Samples and Demos** > ***Mobile samples*** > ***CTF gallery sample project*** thanks to the **New Project** wizard.

You can also create a new project or open an already existing project (if you are using an previously existing workspace with projects) instead of importing a sample project.

While the project is loaded, an **Install Connectors** popup is displayed:

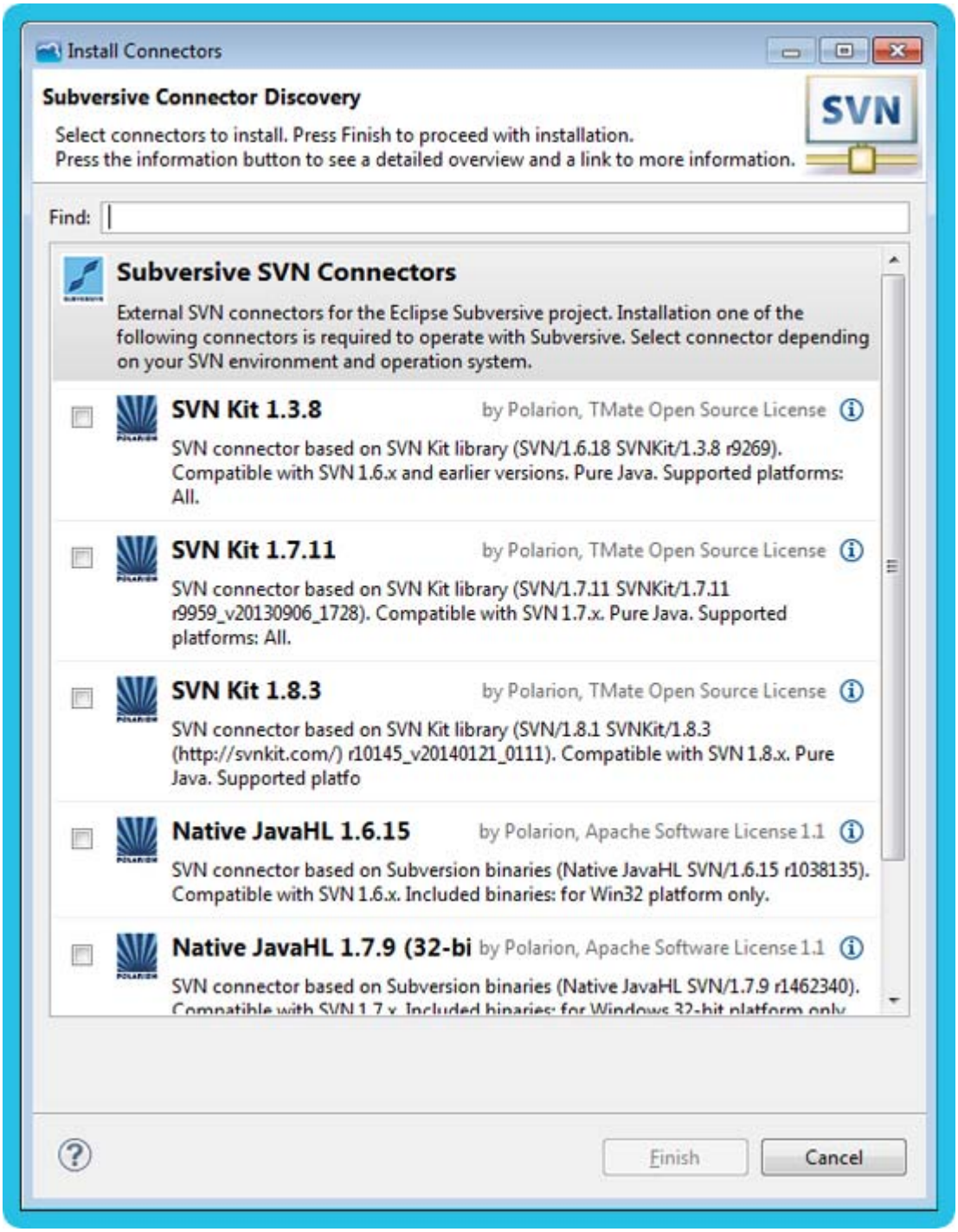


Figure 2 - 38: Install SVN kit in Studio - Install Connectors popup

*The **Install Connectors** popup may not be automatically displayed. It happens because Eclipse considers that you already closed it. It can be the case if you re-use a previously existing workspace or if you closed the popup thinking it would popup later again.*
*In this case, you can manually re-open this popup by clicking on the **Convertigo** menu, then select the **Open SVN Discovery Connectors** entry.*

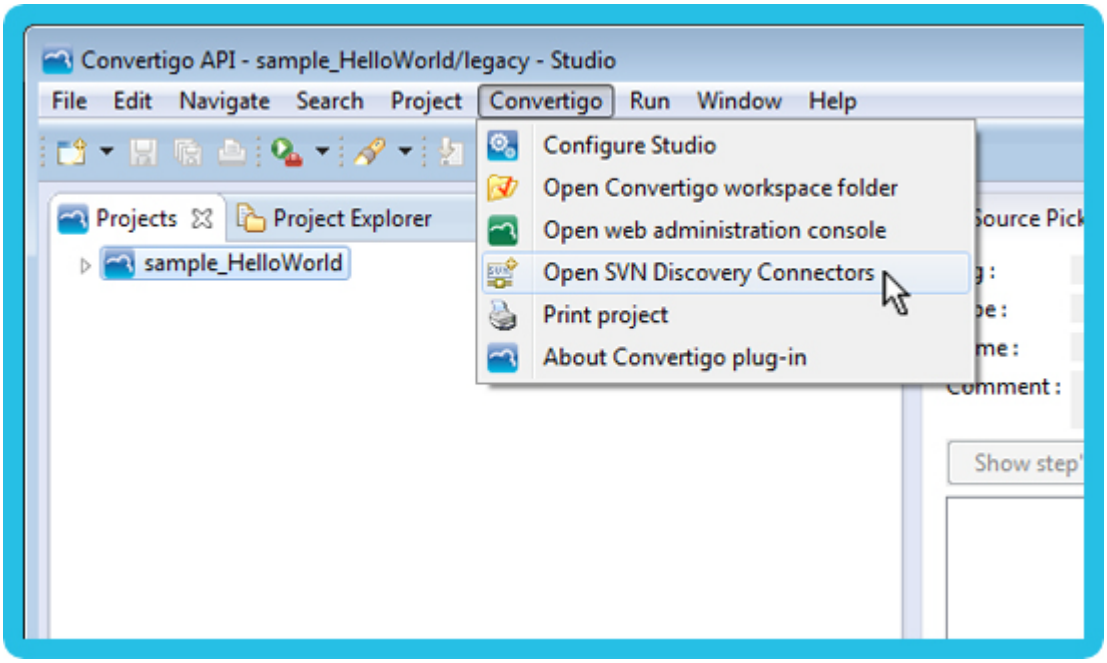


Figure 2 - 39: Install SVN kit in Studio - Menu to re-open the Install Connectors popup

2 Select the most recent SVN Kit connector (in our example, `SVN Kit 1.8.3`) by checking the checkbox. The **Finish** button is enabled:

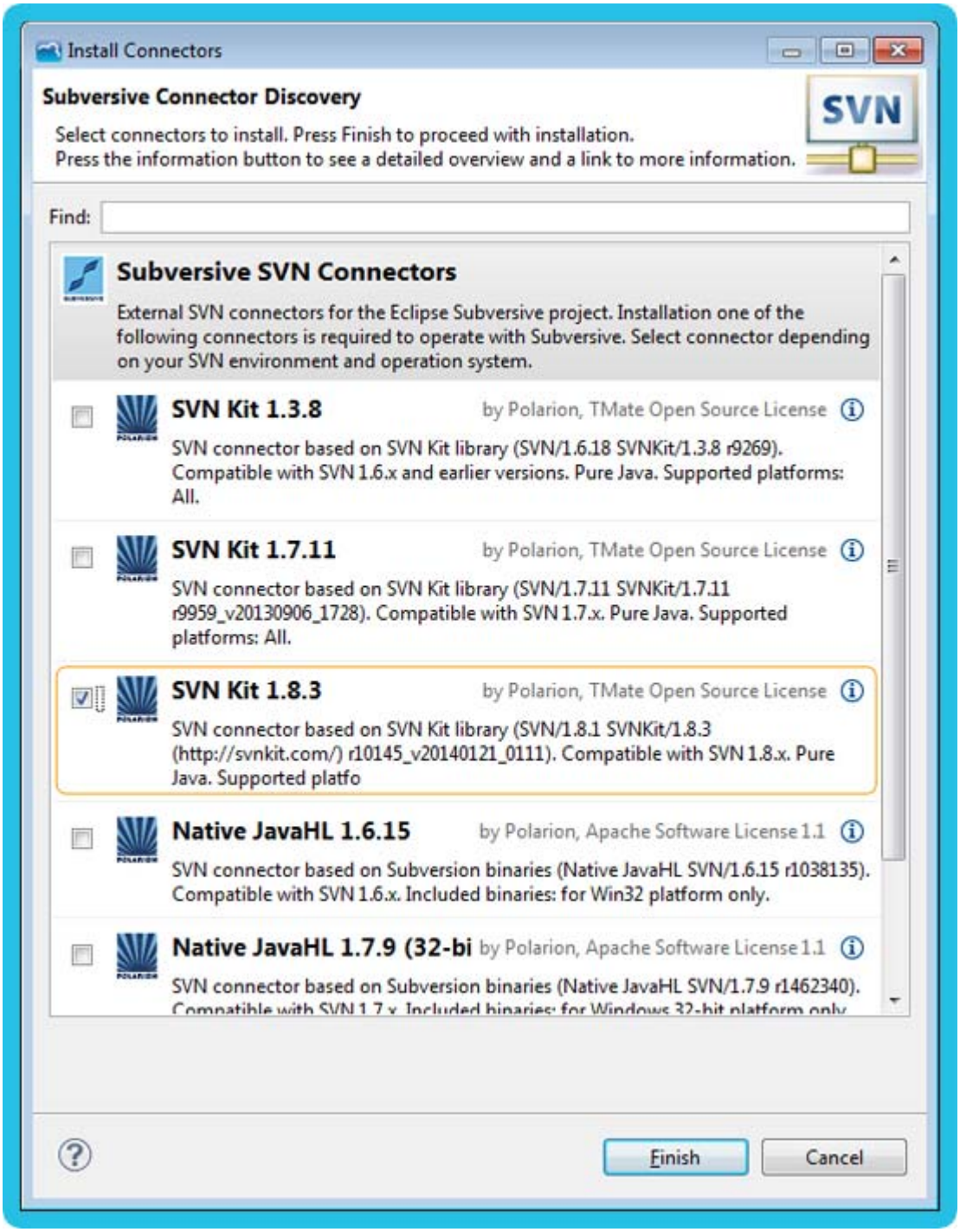


Figure 2 - 40: Install SVN kit in Studio - Selecting SVN Kit connector

3 Click on the **Finish** button.

The wizard loads for computing requirements of the selected option:

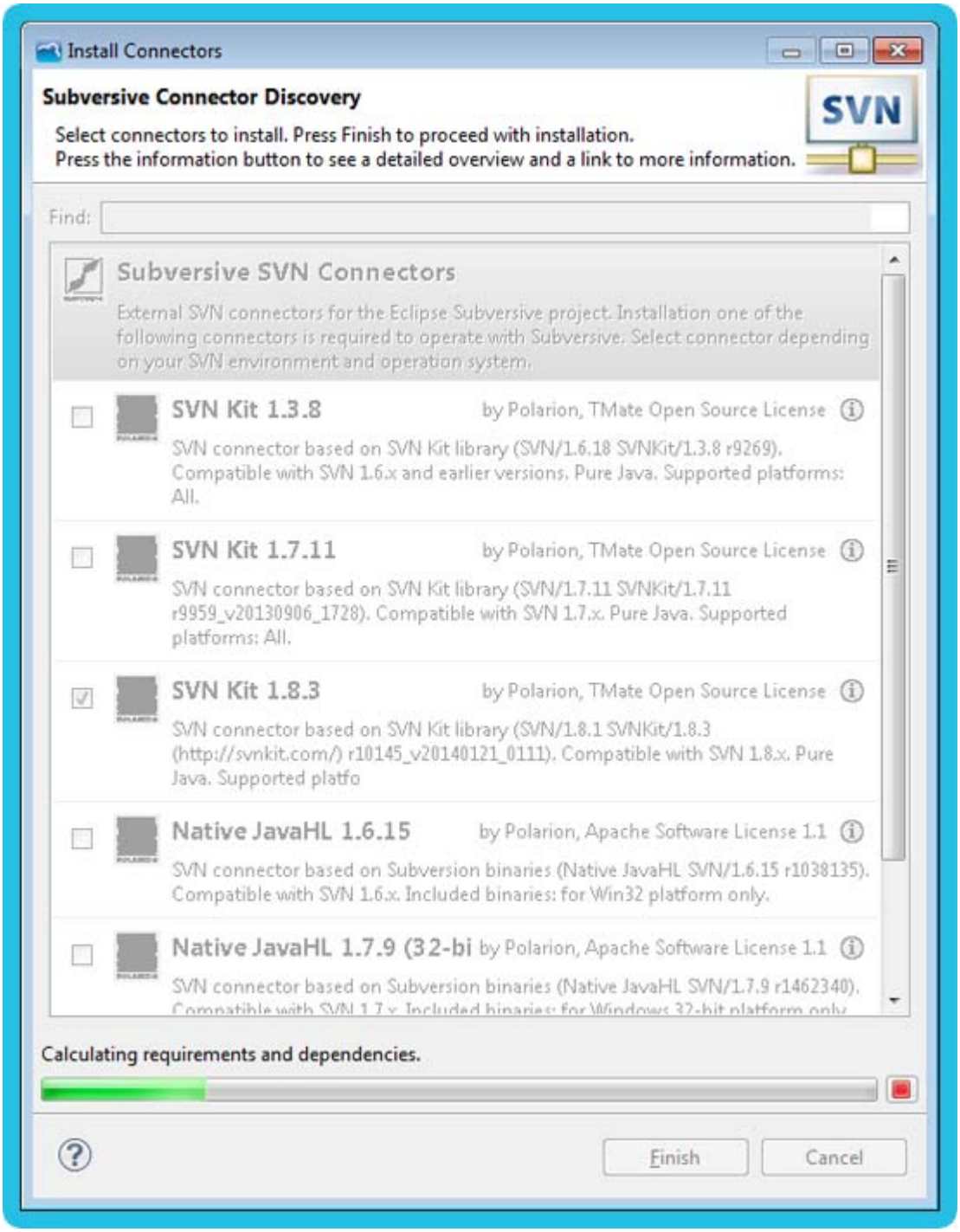


Figure 2 - 41: Install SVN kit in Studio - Processing requirements

Then, the **Install** window is displayed, showing the processing result, i.e. the items to install:

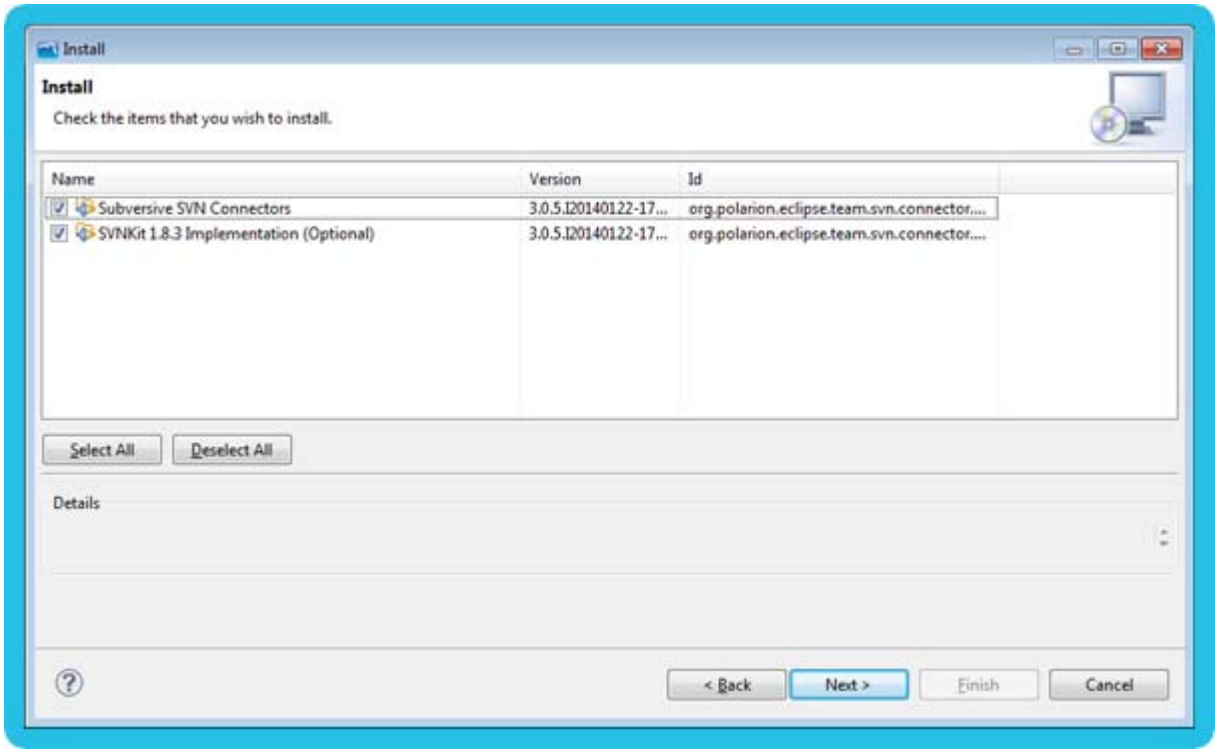


Figure 2 - 42: Install SVN kit in Studio - Install window

4 Select the items to install by checking/unchecking the checkboxes. We do recommend to keep all items for the SVN Kit to work properly. Then, click on **Next**.

The **Install** window shows a summary of items that are going to be installed:

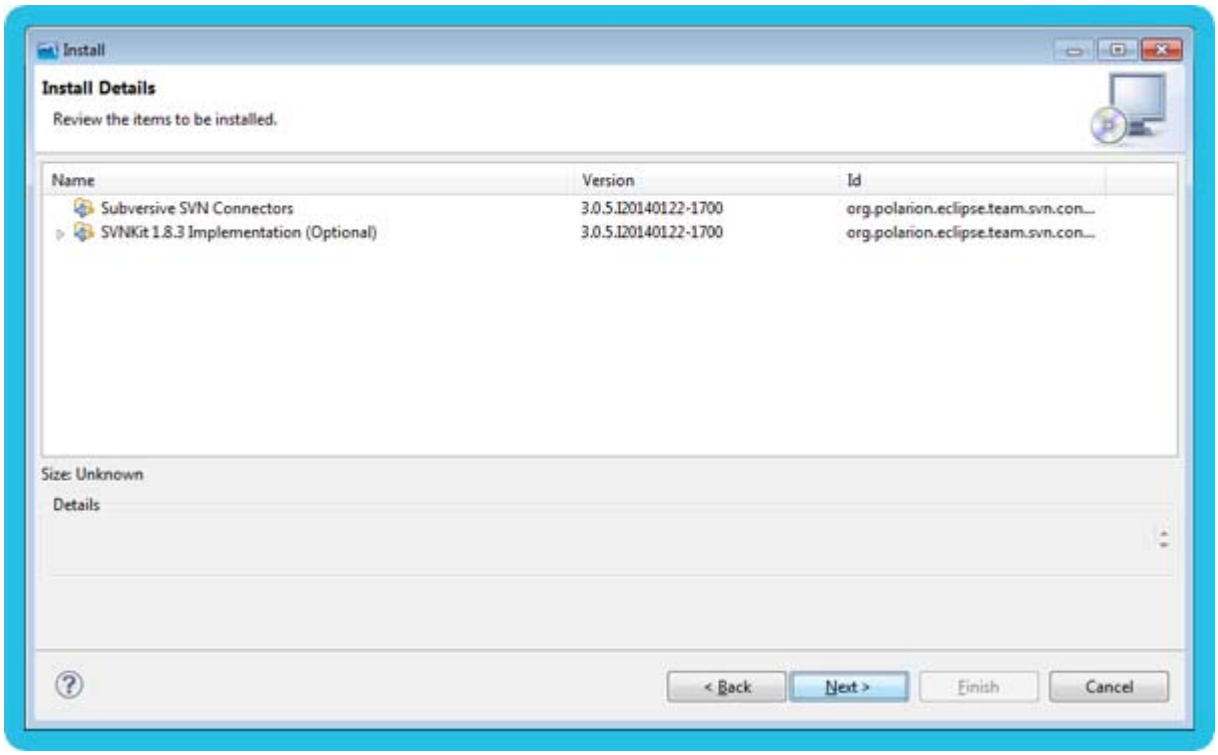


Figure 2 - 43: Install SVN kit in Studio - Review items to install

5 Then, click on **Next**.

The Licences of items to install are displayed:

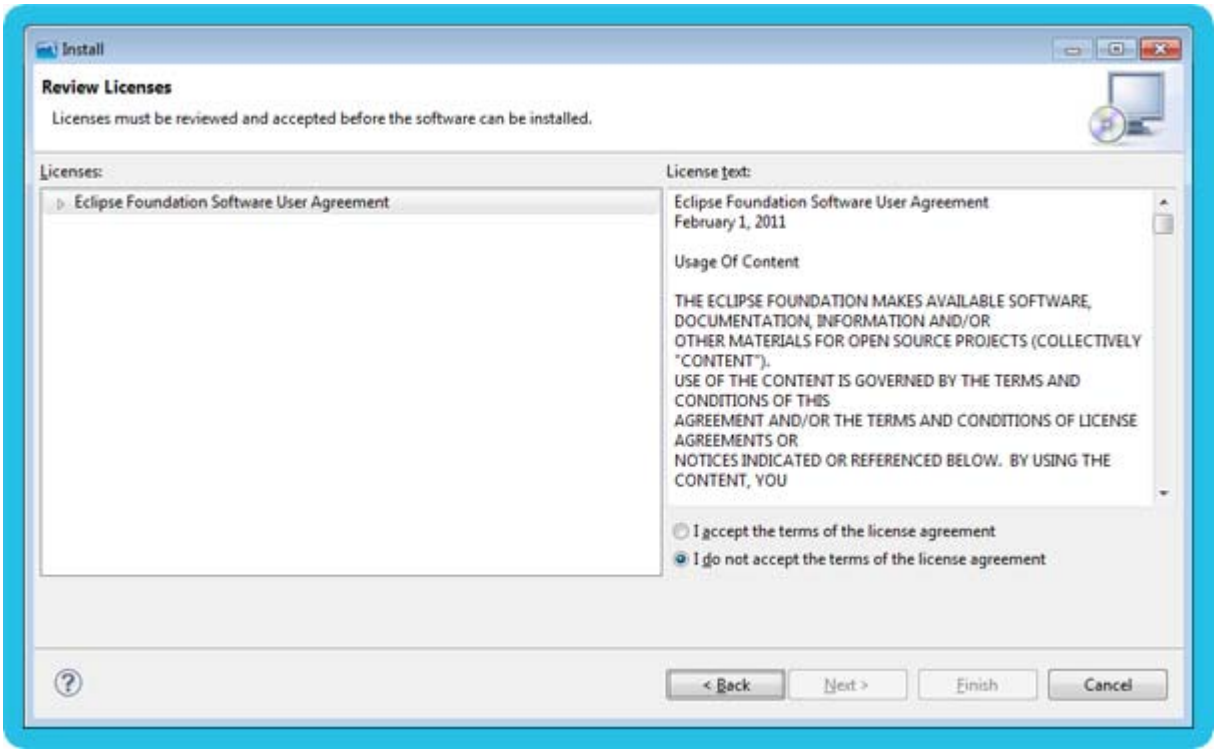


Figure 2 - 44: Install SVN kit in Studio - Licence Agreement

6 Read carefully the Licences, and accept them by checking the **I accept the terms of the license agreement** button.

If you do not accept the Licenses, the installation has to be cancelled.

The **Finish** button is enabled:

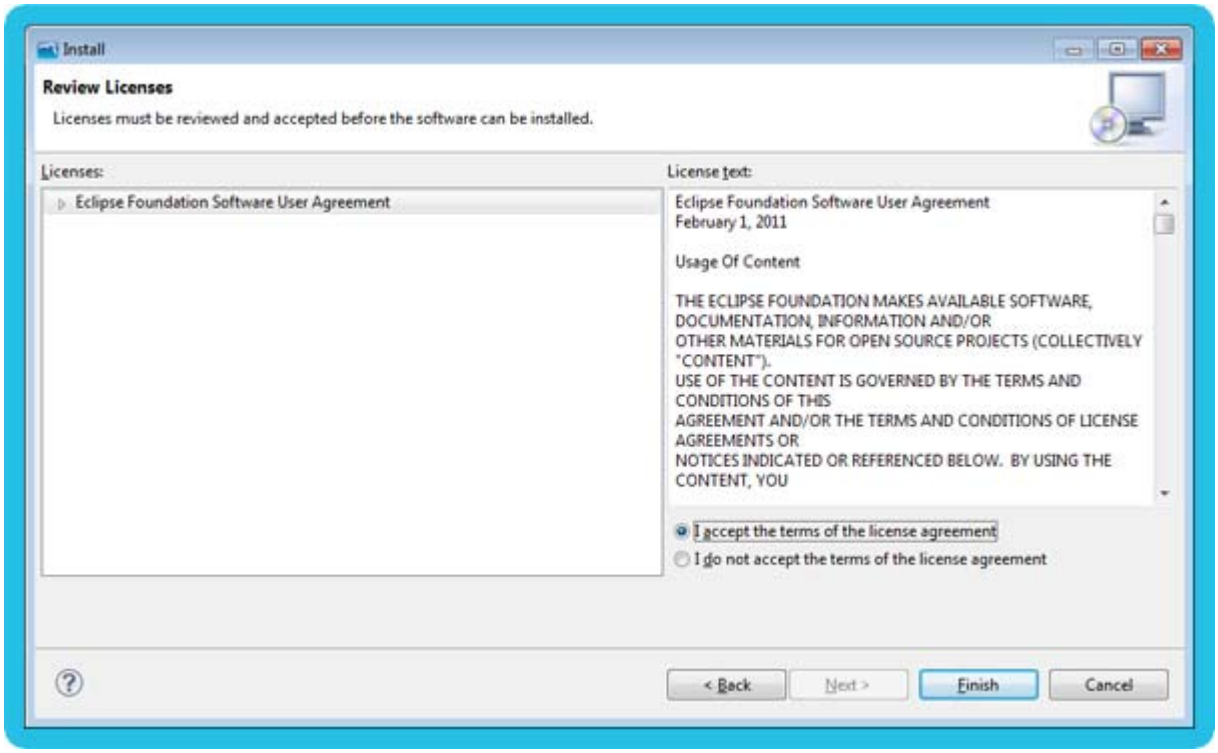


Figure 2 - 45: Install SVN kit in Studio - Accepting Licenses

7 Click on **Finish**. The installation starts:

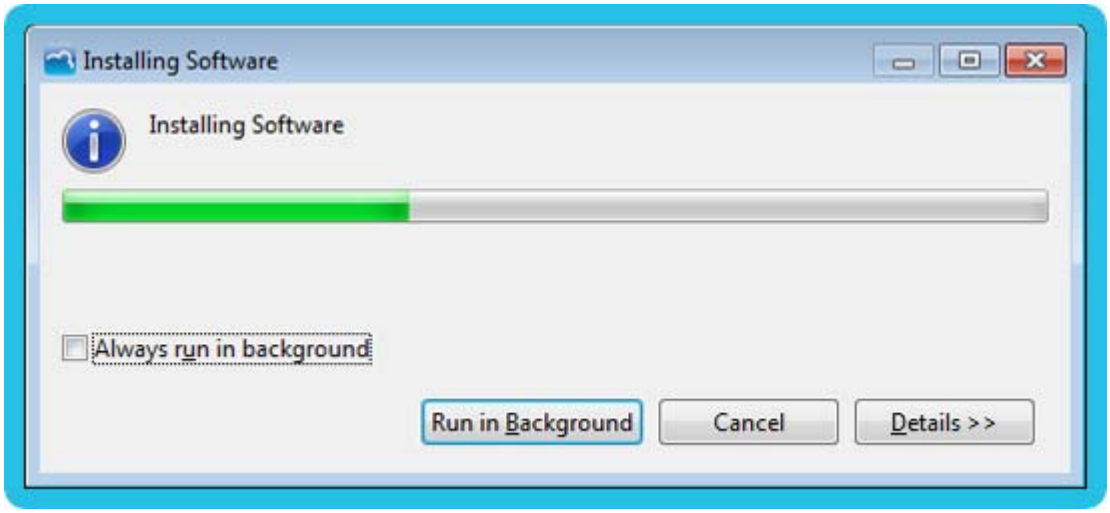


Figure 2 - 46: Install SVN kit in Studio - Installation in progress

A **Security Warning** may pop-up:

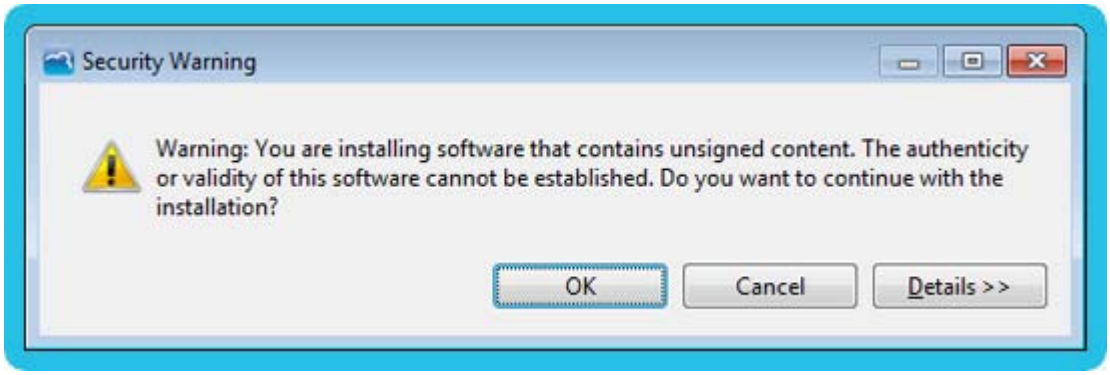


Figure 2 - 47: Install SVN kit in Studio - Security Warning popup

8 You can click on **Details** to expand the detailed information about this security warning:

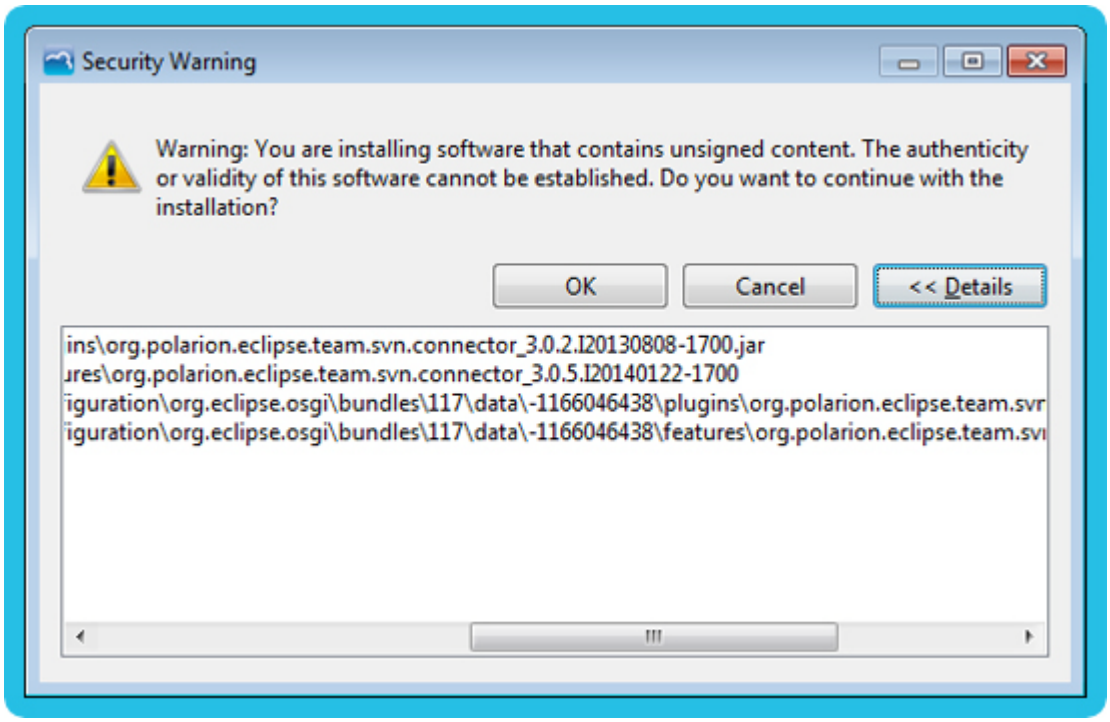


Figure 2 - 48: Install SVN kit in Studio - Security Warning details

9 Click on **OK** to continue installing.

At the end of the installation, a popup proposes to restart the Studio for the changes to be taken into account:

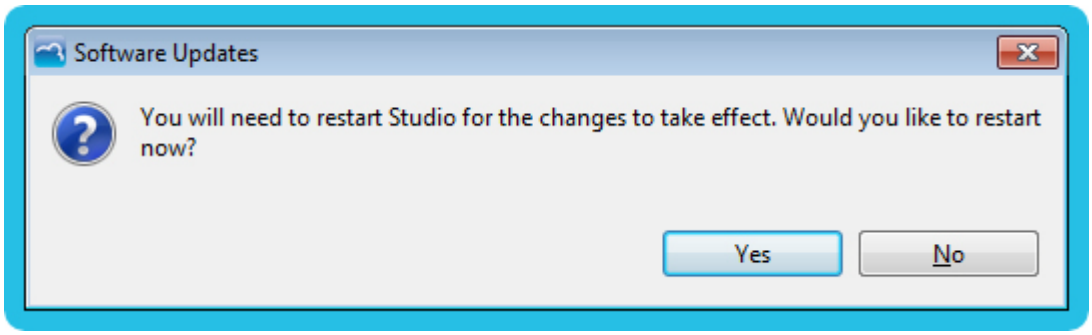


Figure 2 - 49: Install SVN kit in Studio - Restart popup

10 Click on **Yes** to restart the Studio.

The Studio restarts, including the project you added:

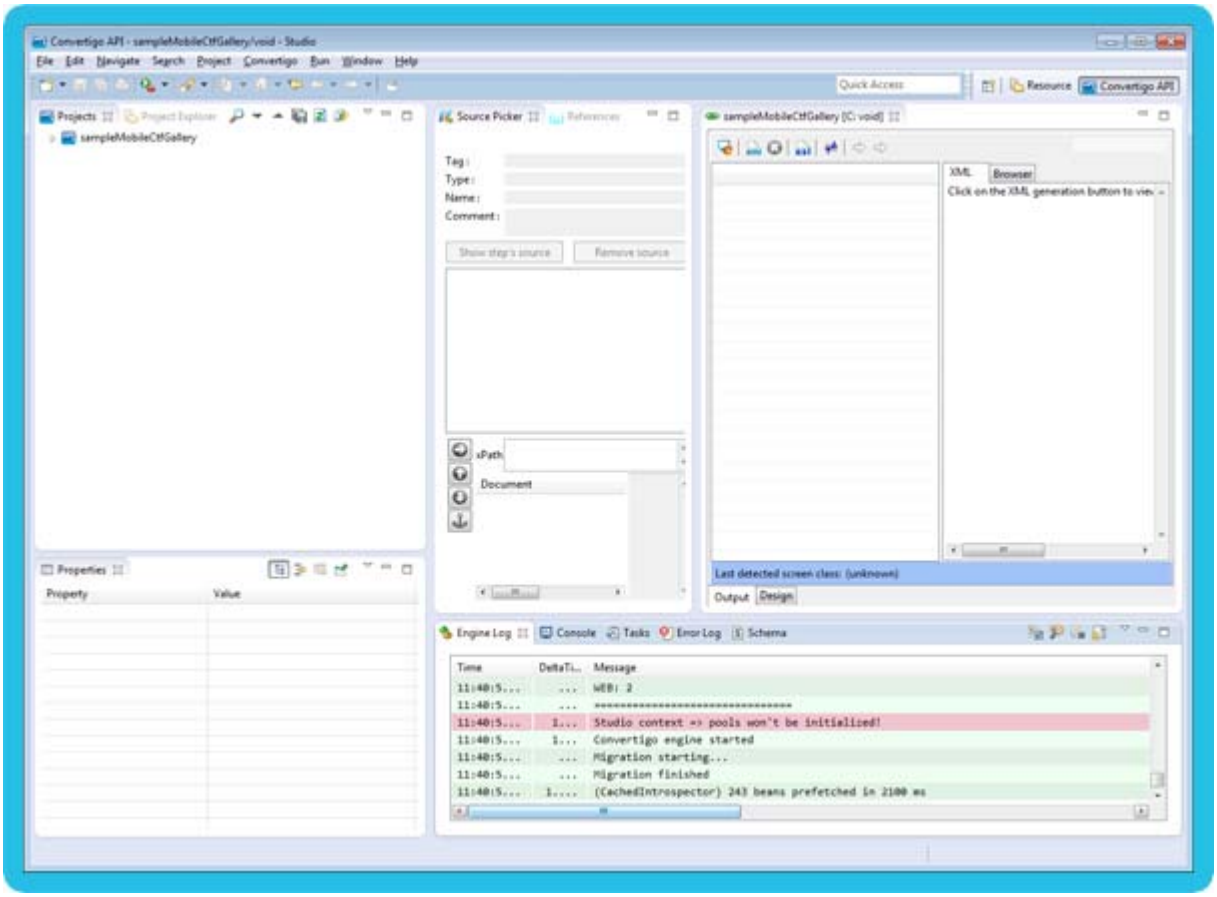


Figure 2 - 50: Install SVN kit in Studio - Studio after restart

The SVN Kit plugin is fully installed in Convertigo Studio and you can use it the standard way. For more information, you can consult Subversive documentation at *http://www.eclipse.org/subversive/documentation.php*

2.2.5 Convertigo Studio default configuration

After you installed Convertigo Studio, you may want to use or change the default access URLs to the embedded engine, the default accounts or the default workspace location. This section presents all the needed information about Convertigo Studio default configurations.

- Convertigo Studio default configurations and access URLs
- Changing Convertigo Studio default configurations

CONVERTIGO STUDIO DEFAULT CONFIGURATIONS AND ACCESS URLS

- Convertigo Studio default workspace
- Convertigo Studio default ports
- Convertigo Studio Administration Console URLs
- Convertigo Studio Test Platform URLs
- Convertigo Studio default accounts

CONVERTIGO STUDIO DEFAULT WORKSPACE

Convertigo Studio workspace launcher popup sets by default the projects workspace directory in the user's home directory, as a `workspace` folder. On Windows, It gives a path of the following form: `C:/Users/me/workspace`

For more information on Convertigo workspace and projects workspace, see Appendix "Convertigo workspace" on page A-2.

You may have changed this path while installing, see Figure 2 - 11.

CONVERTIGO STUDIO DEFAULT PORTS

Convertigo Studio and its embedded tomcat are intalled by default to listen on the following ports:

- `18080` for HTTP,
- `18081` for HTTPS (Convertigo Studio enables HTTPS by default after installation).

CONVERTIGO STUDIO ADMINISTRATION CONSOLE URLS

Convertigo Studio Administration Console is accessible at the following URL:

- in HTTP:

```
http://localhost:18080/convertigo/admin
```

  - `localhost` is the host name of local machine (as Convertigo Studio is installed locally),
  - `18080` is the default HTTP port number of a Convertigo Studio.
- in HTTPS:

```
https://localhost:18081/convertigo/admin
```

- `localhost` is the host name of local machine (as Convertigo Studio is installed locally),
- `18081` is the default HTTPS port number of a Convertigo Studio (HTTP port number+1).

The *Administration Console* authentication page of the Server embedded in Convertigo Studio opens:

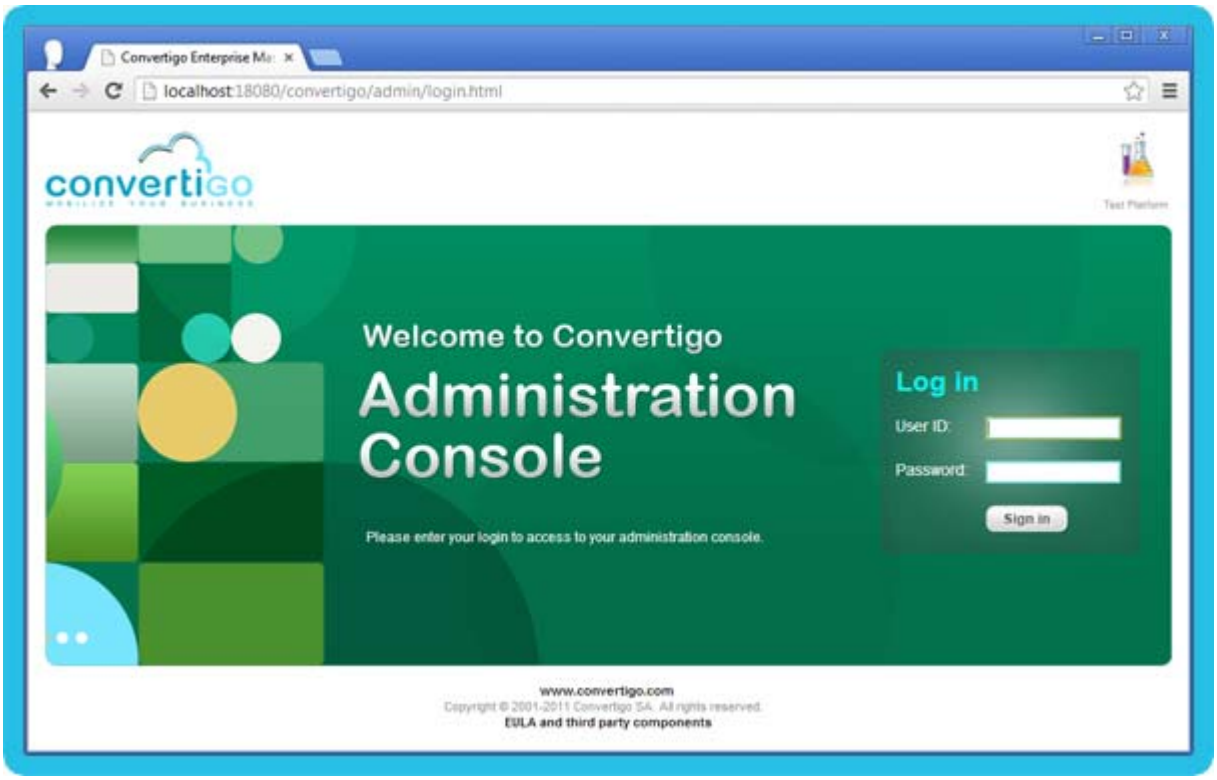


Figure 2 - 51: Convertigo Studio Administration authentication page

For more information about the Administration Console, see "Using Convertigo Administration Console" on page 4-1.

CONVERTIGO STUDIO TEST PLATFORM URLS

Convertigo Studio Test Platform is accessible at the following URL:

- in HTTP:

```
http://localhost:18080/convertigo
```

- `localhost` is the host name of local machine (as Convertigo Studio is installed locally),
- `18080` is the default HTTP port number of a Convertigo Studio.

- in HTTPS:

```
https://localhost:18081/convertigo
```

- `localhost` is the host name of local machine (as Convertigo Studio is installed locally),
- `18081` is the default HTTPS port number of a Convertigo Studio (HTTP port number+1).

The *Test Platform* home page of the Convertigo Studio opens:

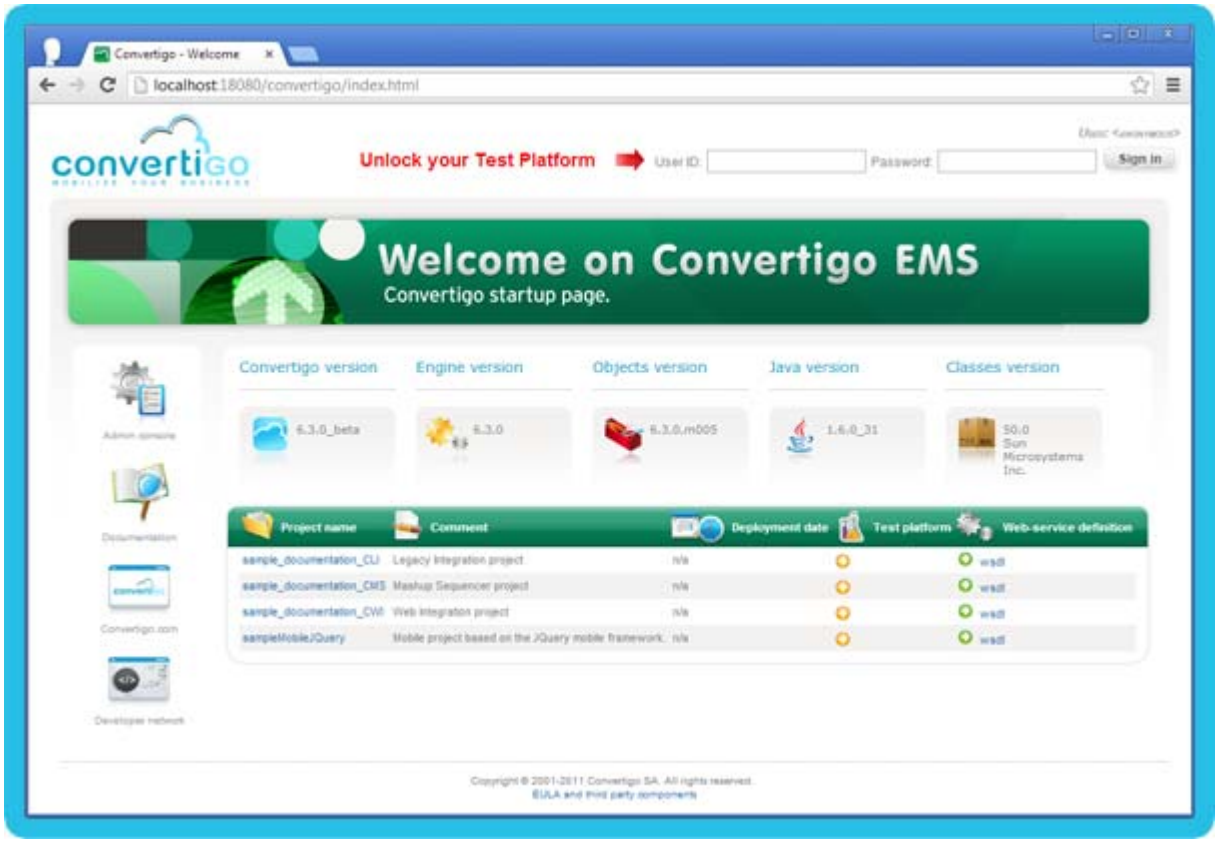


Figure 2 - 52: Convertigo Studio Test Platform

Here, the *Test Platform* home page contains projects in the list of projects, these projects are those deployed in the Studio.

For more information about the Test Platform, you can consult the Using the Test Platform chapter of the User Guide (coming soon).

CONVERTIGO STUDIO DEFAULT ACCOUNTS

Convertigo Studio declares by default the following accounts:

- **administrator** account, which user ID/password is `admin`/`admin`, used to access the *Administration Console* and the *Test Platform*,
- no **tester** account is defined by default, you access the *Test Platform* as **anonymous** user.

For more information about the Test Platform accounts, you can consult the Using the Test Platform chapter of the User Guide (coming soon).

CHANGING CONVERTIGO STUDIO DEFAULT CONFIGURATIONS

CHANGING CONVERTIGO STUDIO DEFAULT WORKSPACE

The Convertigo Studio projects workspace can be changed using the following procedure.

To change the Convertigo Studio workspace directory

1. If not running, launch the Convertigo Studio. On Windows, if you choose to create shortcuts during the installation wizard, simply access the shorcut that is on your desktop and double-click on it to launch Convertigo Studio. Otherwise, use the Start menu to launch Convertigo Studio.

   For other platforms, Convertigo Studio was installed in the folder you choose during installation wizard. You can open this folder to access the `ConvertigoStudio.exe` start file. and double-click on it to launch Convertigo Studio.

2. Once started, open the **File** menu, select **Switch Workspace**, then **Other...**

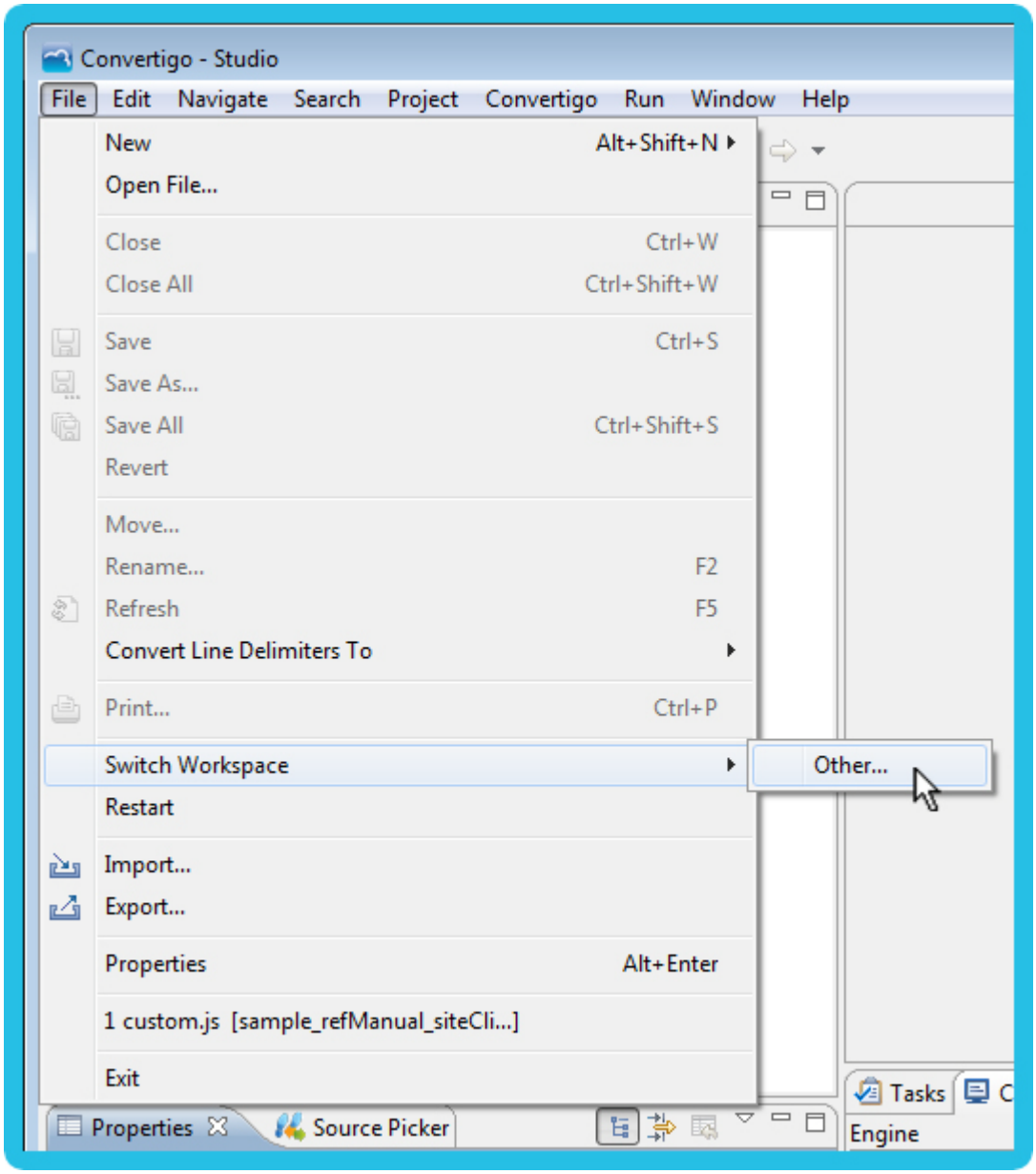


Figure 2 - 53: Swithcing workspace

This re-opens the *Workspace launcher* popup window:

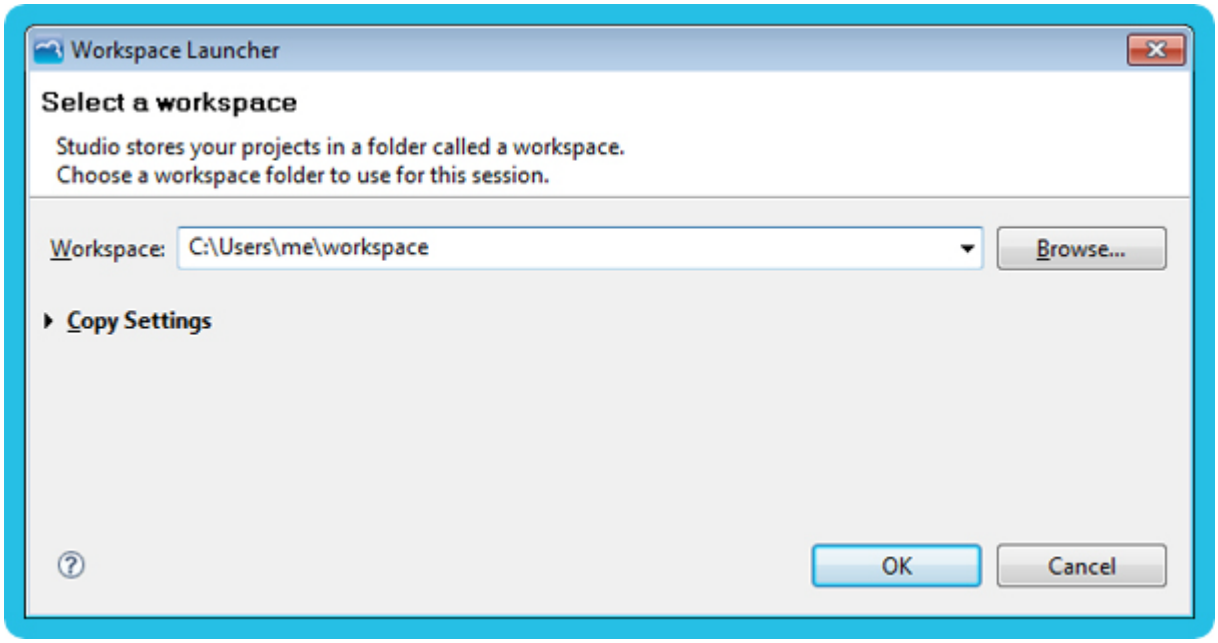


Figure 2 - 54: Workspace launcher popup window

3 Change the **Workspace** path value, possibly using the **Browse...** button, to specify the location of the workspace directory you want to use.

4 Then, expend the **Copy Settings** category by click on it:

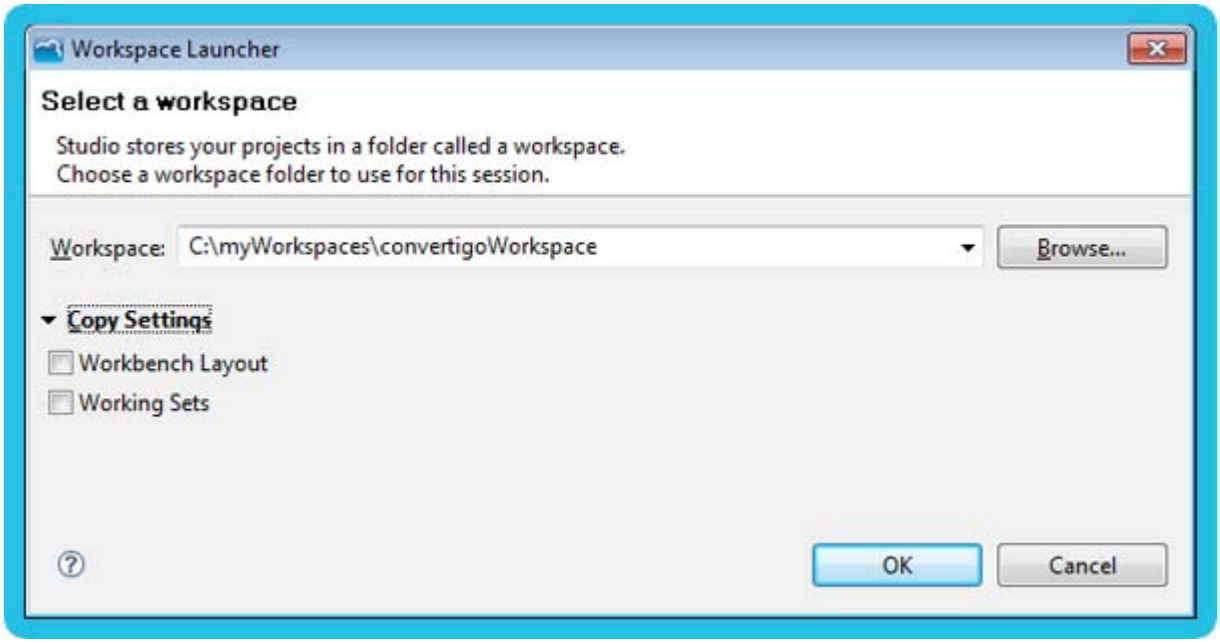


Figure 2 - 55: Expended Copy Settings category

These checkboxes allow you to configure which settings of your current Eclipse workspace will be transferred to your new workspace:

- Workbench Layout: Opened views, their size, and selected perspectives.
- Working Sets: The user defined working sets.

5 Check the appropriate checkboxes for your configuration and click on **OK**.

Convertigo Studio closes and restarts.

At startup, in the case of a workspace path pointing to an empty folder, a not existing folder, or a Convertigo workspace that was created with a Convertigo prior to version 6.2.0, the Convertigo Studio starting wizard is launched.

6 In this case, follow the procedure *"To start and configure Convertigo Studio on Windows/Linux/Mac OS"* on page 2-15 from step 6.

7 Otherwise, in the case of a workspace path pointing to a Convertigo workspace that was created with a Convertigo from version 6.2.0, the workspace is loaded in Convertigo Studio and reused as is.

CHANGING CONVERTIGO STUDIO DEFAULT PORTS

Convertigo Studio ports can be changed.

- The HTTP port can be changed following the procedure *"To change the Convertigo Studio HTTP port"* on page 2-56.
- The HTTPS port of the Convertigo Studio will always be the HTTP port+1.

To change the Convertigo Studio HTTP port

1 Access the *Configuration* page of the *Administration Console* following the procedure *"To access Configuration page in the Administration Console"* on page 4-9.

2 Access to the *Main parameters* category following the procedure *"To access a configuration category in the Configuration page"* on page 4-12. This category is generally the one expanded by default.

The *Main parameters* category opens:

Figure 2 - 56: Main parameters category

3 In the **Convertigo Server application URL** field, change the HTTP port in the URL. For example, type `8182` as new port number instead of preconfigured `18080`:

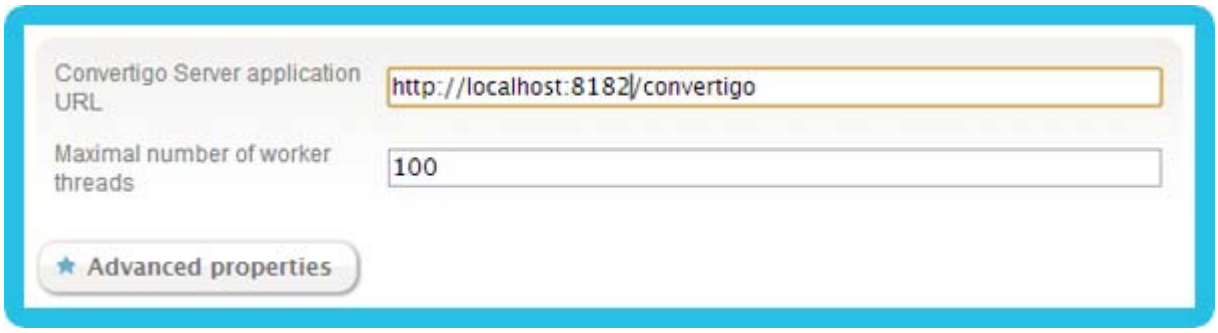


Figure 2 - 57: Editing Convertigo Server application URL parameter

4 Click on the **Update configuration** button located on the top (or bottom) of the *Configuration* page:

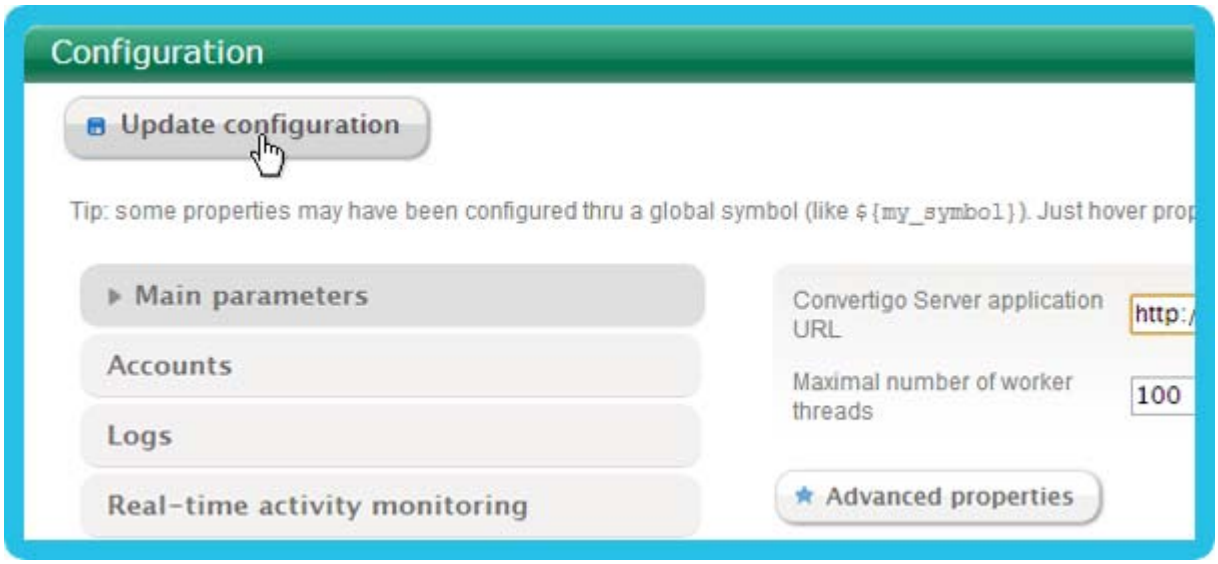


Figure 2 - 58: Updating configuration

A pop-in appears to confirm that the new parameters have been taken into account:

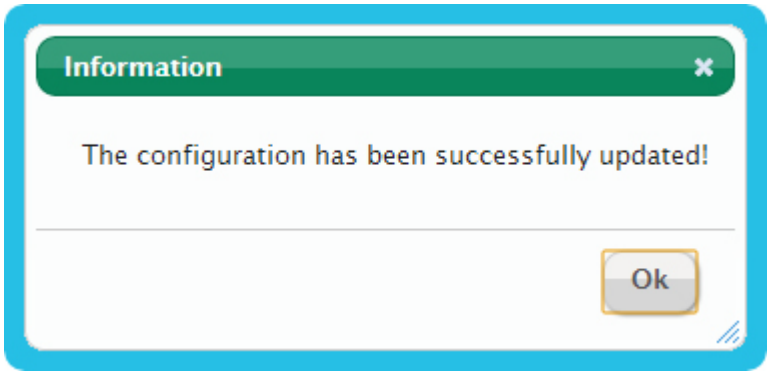


Figure 2 - 59: Confirmation pop-in

5 Click on the **Ok** button to close the pop-in.

6 Then, for the configuration to be applied on the Convertigo engine, you need to quit and restart the Studio. Both HTTP and HTTPS ports are updated.

7 After the Studio restart, you can access the *Test Platform* or *Administration Console* with the new defined ports. For example, use the following URLs:

- in HTTP:

```
http://localhost:8182/convertigo/admin
```

- in HTTPS:

```
https://localhost:8183/convertigo/admin
```

Note that the HTTPS port is always updated along with the HTTP port as the HTTPS port of the Convertigo Studio will always be the HTTP port+1.

Changing Convertigo Studio default administration account

The Convertigo Studio **administrator** account can be changed using the following procedure.

To change the Convertigo Studio administrator account

1. Access the *Configuration* page of the *Administration Console* following the procedure *"To access Configuration page in the Administration Console"* on page 4-9.
2. Access to the *Accounts* category following the procedure *"To access a configuration category in the Configuration page"* on page 4-12.

   The *Accounts* category opens:

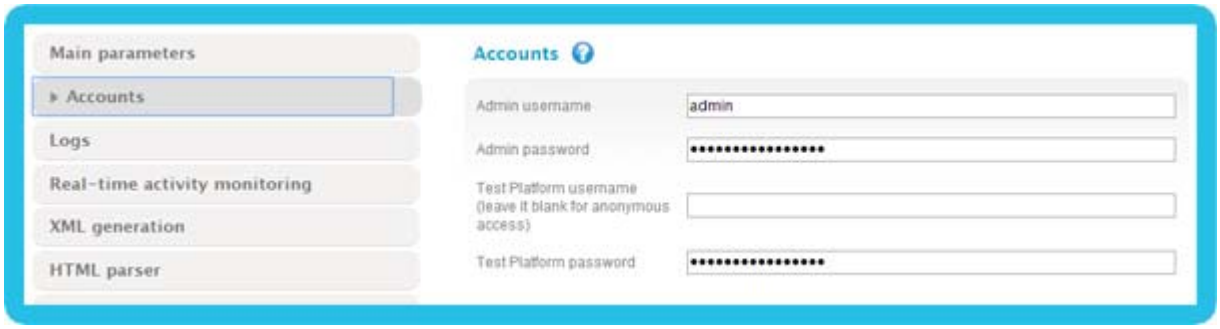


Figure 2 - 60: Accounts category

3. Enter the administrator username and password in the **Admin username** and **Admin password** fields.
4. Click on the **Update configuration** button located on the top (or bottom) of the *Configuration* page:

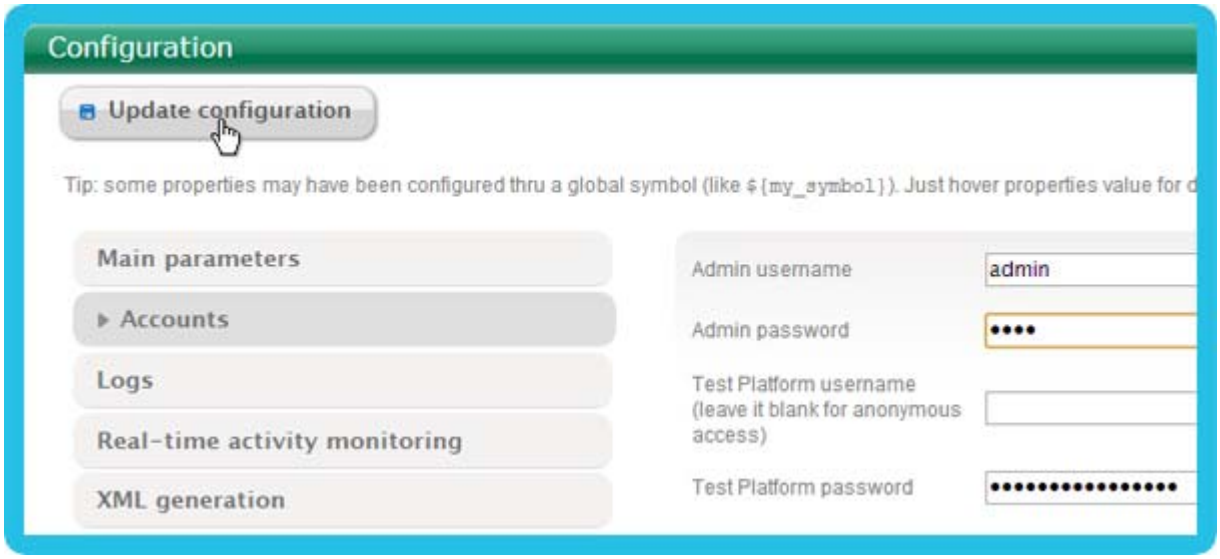


Figure 2 - 61: Setting Admin account parameters and updating configuration

A pop-in appears to confirm that the new parameters have been taken into account:

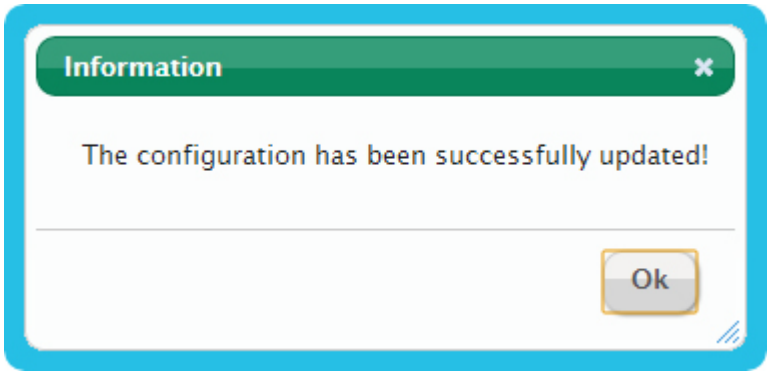


Figure 2 - 62: Confirmation pop-in

5 Click on the **Ok** button to close the pop-in.

You are still authenticated in the *Administration Console*, even if the **administrator** account has changed. The new account credentials will be needed only when authenticating again in the platform.

Changing Convertigo Studio default tester account

As no **tester** account is defined by default after Studio installation, such an account can be declared using the following procedure. This procedure is also valid if you want to change the **tester** account afterwards.

To declare or change the Convertigo Studio tester account

1 Access the *Configuration* page of the *Administration Console* following the procedure *"To access Configuration page in the Administration Console"* on page 4-9.

2 Access to the *Accounts* category following the procedure *"To access a configuration category in the Configuration page"* on page 4-12.

The *Accounts* category opens (see Figure 2 - 60).

3 Enter the tester username and password in the **Test Platform username** and **Test Platform password** fields.

4 Click on the **Update configuration** button located on the top of the *Configuration* page:

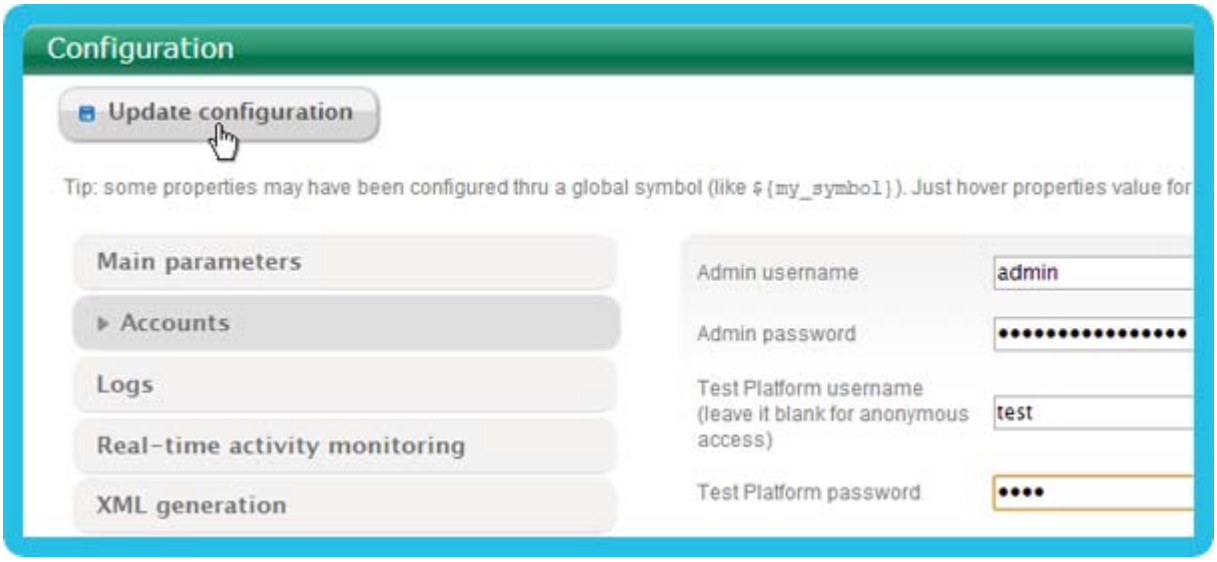


Figure 2 - 63: Setting Tester account parameters and updating configuration

A pop-in appears to confirm that the new parameters have been taken into account:

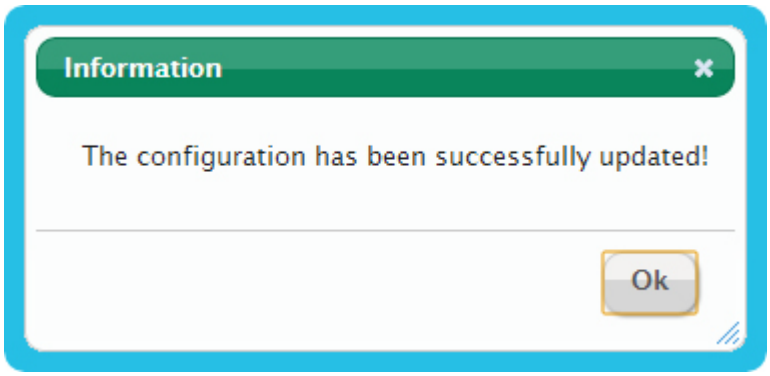
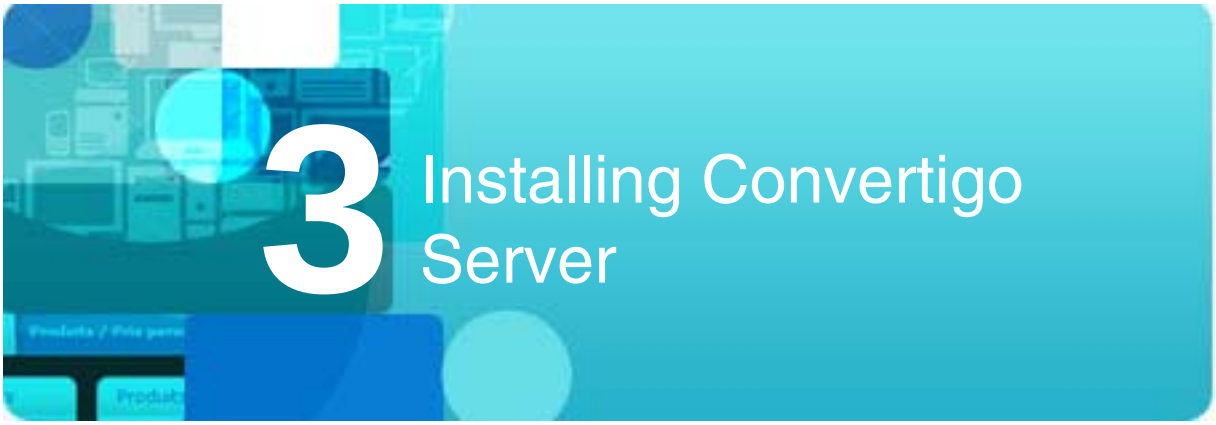


Figure 2 - 64: Confirmation pop-in

5 Click on the **Ok** button to close the pop-in.

The *Test Platform* can be accessed authenticating with the **tester** account. The **anonymous** user cannot see any information anymore in the *Test Platform*.

For more information about the Test Platform accounts, you can consult the Using the Test Platform chapter of the User Guide (coming soon).



3 Installing Convertigo Server

This chapter describes how to install Convertigo Server in several qualified environments and operating systems.

3.1 General purpose and packages

Convertigo Server can be installed on different operating systems and application servers. The installation can be done on Windows or Linux operating systems.

In standard, Convertigo Server installation is packaged as a `.exe` file including Apache Tomcat application server or is a `.war` file. The installation on application servers, such as IBM WebSphere, is done with the *.war* file of the distribution.

You will see in the following table the packages used for installation:

Table 3 - 1: Packages uses table

	Tomcat	**WebSphere**	**Other application servers**
Windows **(since version 2003)**	convertigo-server-*X.Y.Z*-v*12345*-win32-install.exe All embedded package (including Tomcat application server)	convertigo-*X.Y.Z*-v*12345*-win32.war	convertigo-*X.Y.Z*-v*12345*-win32.war
Linux	convertigo-server-*X.Y.Z*-v*12345*-linux32.run.zip All embedded package (including Tomcat application server)	• 32 bits: convertigo-*X.Y.Z*-v*12345*-linux32.war • 64 bits: convertigo-*X.Y.Z*-v*12345*-linux64.war	convertigo-*X.Y.Z*-v*12345*-linux32.war
Other OS (HTML connector not supported)	convertigo-*X.Y.Z*-v*12345*-linux32.war	• 32 bits: convertigo-*X.Y.Z*-v*12345*-linux32.war • 64 bits: convertigo-*X.Y.Z*-v*12345*-linux64.war	convertigo-*X.Y.Z*-v*12345*-linux32.war

3.2 C-EMS installation on Windows/Tomcat

This chapter explains how to install C-EMS on Windows with Tomcat application server and what are the default configuration of C-EMS and how to change them:

- Installing C-EMS on Windows/Tomcat
- Convertigo Server default configuration on Windows/Tomcat

3.2.1 Installing C-EMS on Windows/Tomcat

PREREQUISITES

SERVER PREREQUISITES

The following table describes minimum server prerequisites for installing Convertigo Server:

Table 3 - 2: Server prerequisites

	Windows Server	Other Windows (only for development and demos)
Version	starting from Windows Server version 2003	• Windows XP Service Pack 2 (32 bits) • Windows Seven (32 or 64 bits)
CPU	Dual Core	Dual Core
RAM	4 Gb	4 Gb
Disk space	10 Gb	10 Gb

INSTALLATION REQUIREMENTS

- The C-EMS installer file: convertigo-server-*X.Y.Z*-v*12345*-win32-install.exe
- You must have administration privileges to run this installer.

INSTALLATION PROCEDURE

The following procedure explains step by step how to install C-EMS including Tomcat application server on Windows.

To install Convertigo Server on Windows with Tomcat application server

1 Double click on the installation file `convertigo-server-X.Y.Z-v12345-win32-install.exe`

A **Security Warning** popup is displayed:

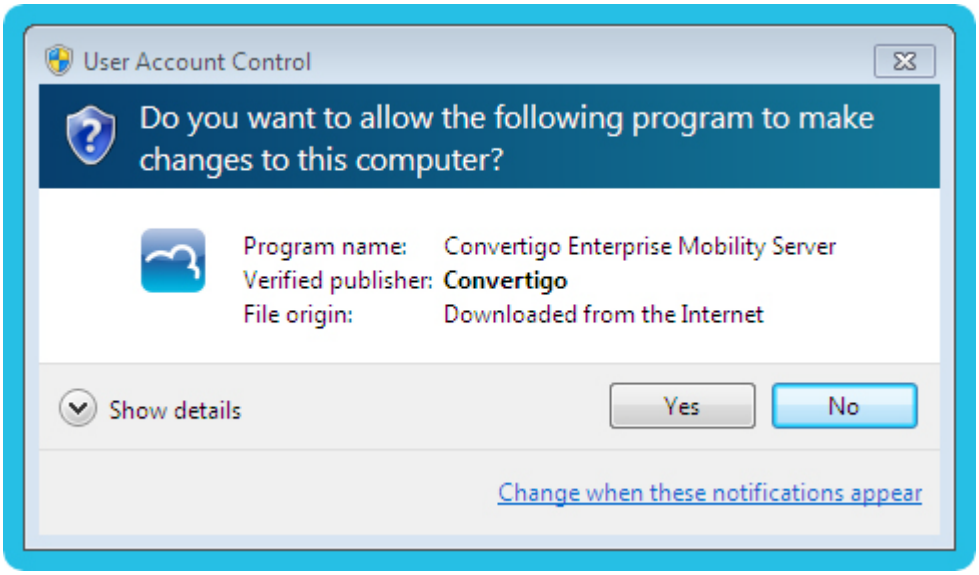


Figure 3 - 1: Security Warning popup after launching the installation file

2 Accept the security warning by pressing the **Run** button.

Figure 3 - 2: Installing C-EMS

3 Click on **Next** and follow the screens.

The End User Licence Agreement is displayed:

Figure 3 - 3: C-EMS Licence Agreement

4 Read carefully the EULA, and accept it by clicking on the **I Agree** button.

If you do not accept the EULA, the installation has to be cancelled.

The next page proposes the C-EMS components to install:

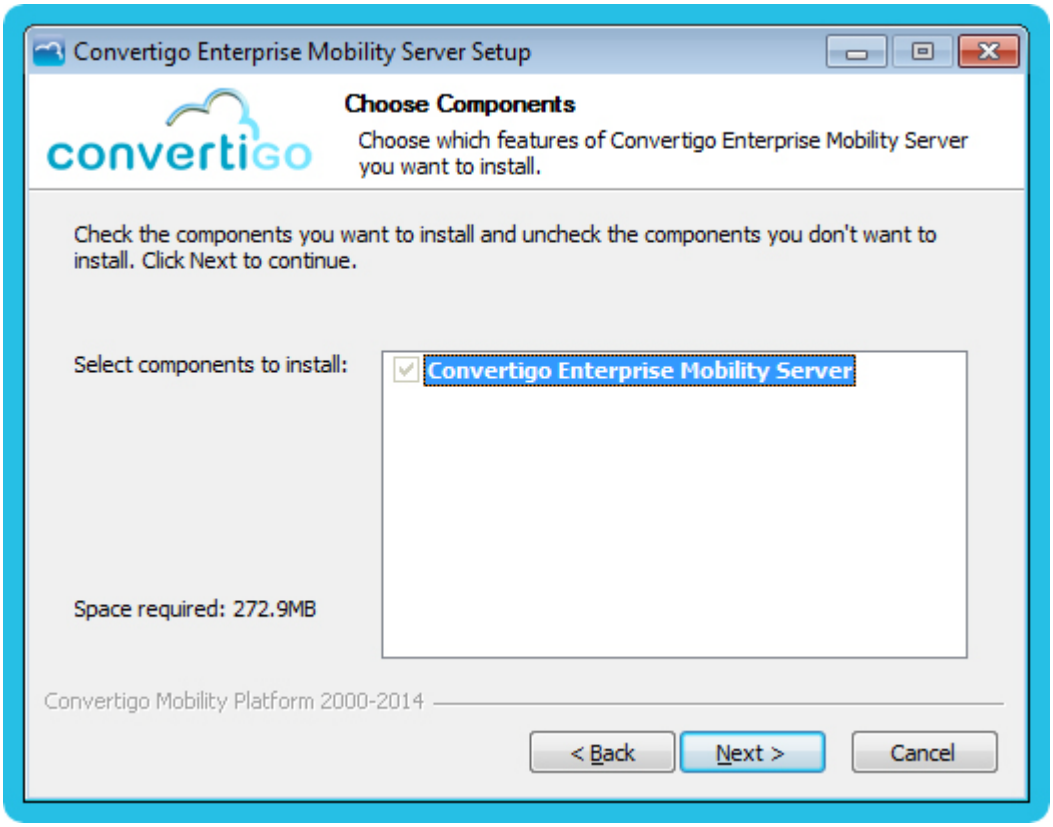


Figure 3 - 4: Choosing components

5 The C-EMS component is already selected. Click on **Next**.

The next page allows you to choose the installation folder:

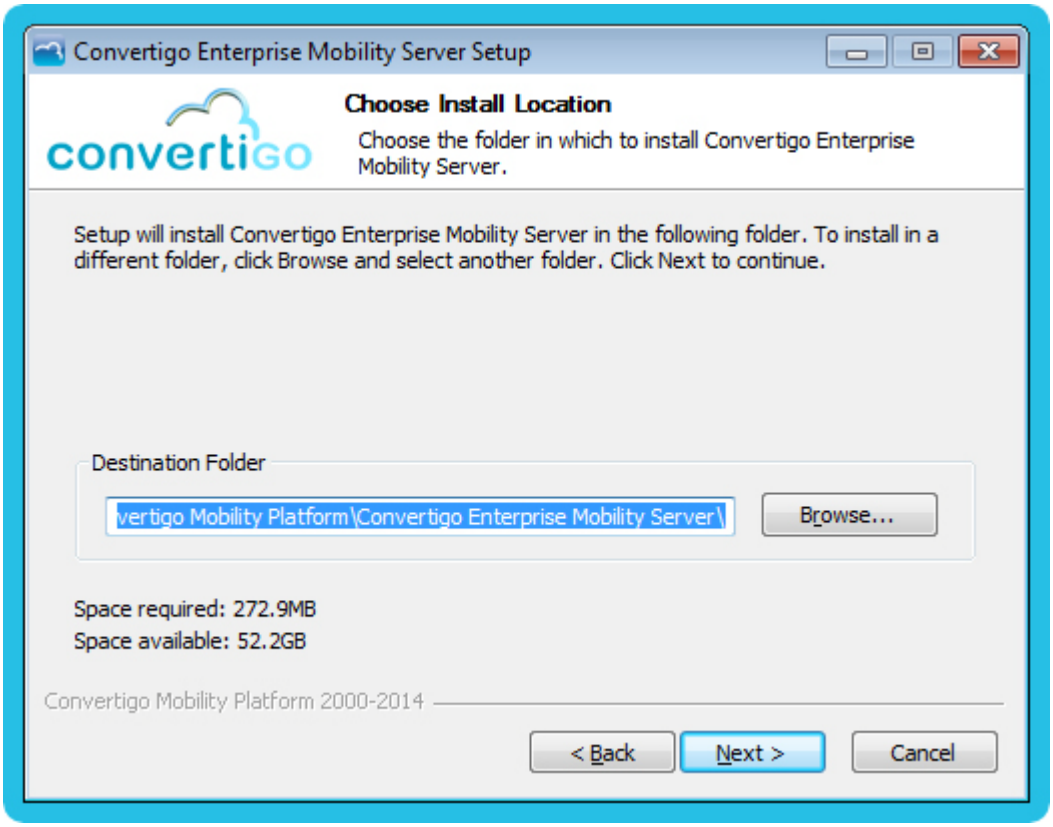


Figure 3 - 5: Setting destination folder

6 Change destination folder if the default one is not correct for your installation, and click on **Next**.

The next page allows you to configure the basic settings of the Convertigo Server:

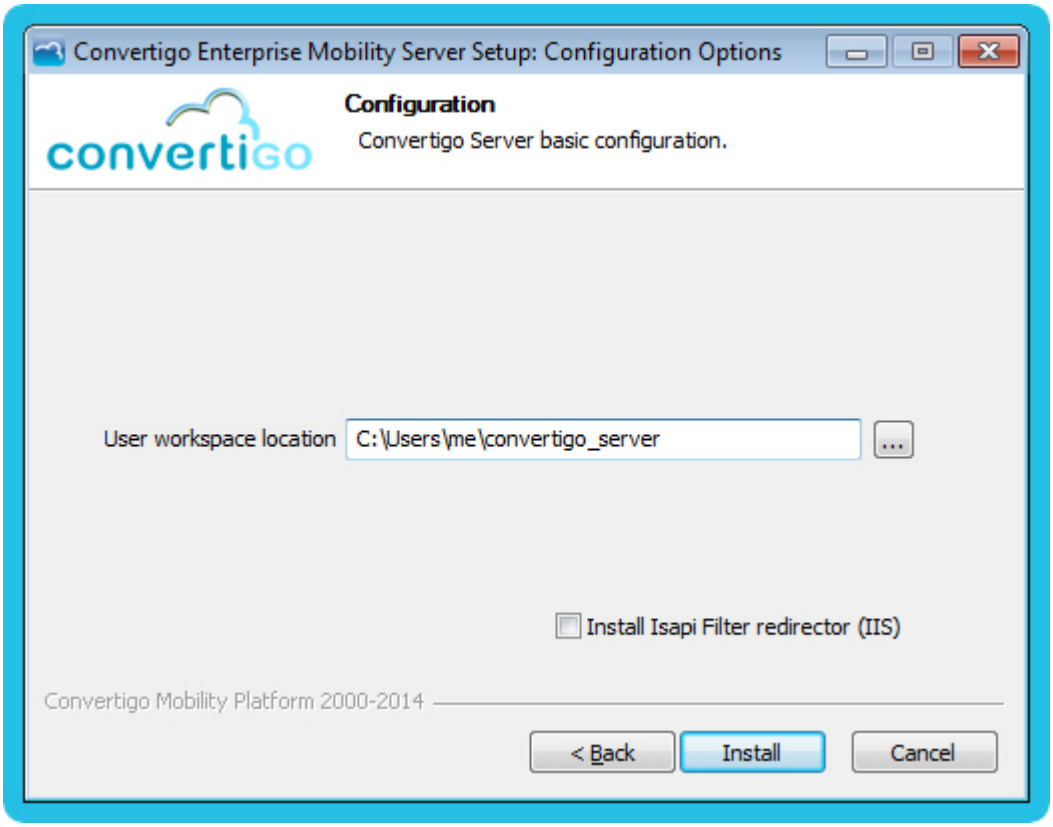


Figure 3 - 6: Server workspace configuration

7 In this screen, you can indicate:

- the location of the Convertigo workspace (a default folder is proposed in the currently logged user environment),
- whether the connection is made through an IIS (checking or not the box).

For more information on Convertigo workspace and projects workspace, see Appendix "Convertigo workspace" on page A - 2.

8 Then, click on the **Install** buton.

The installation starts, you should wait for a few minutes:

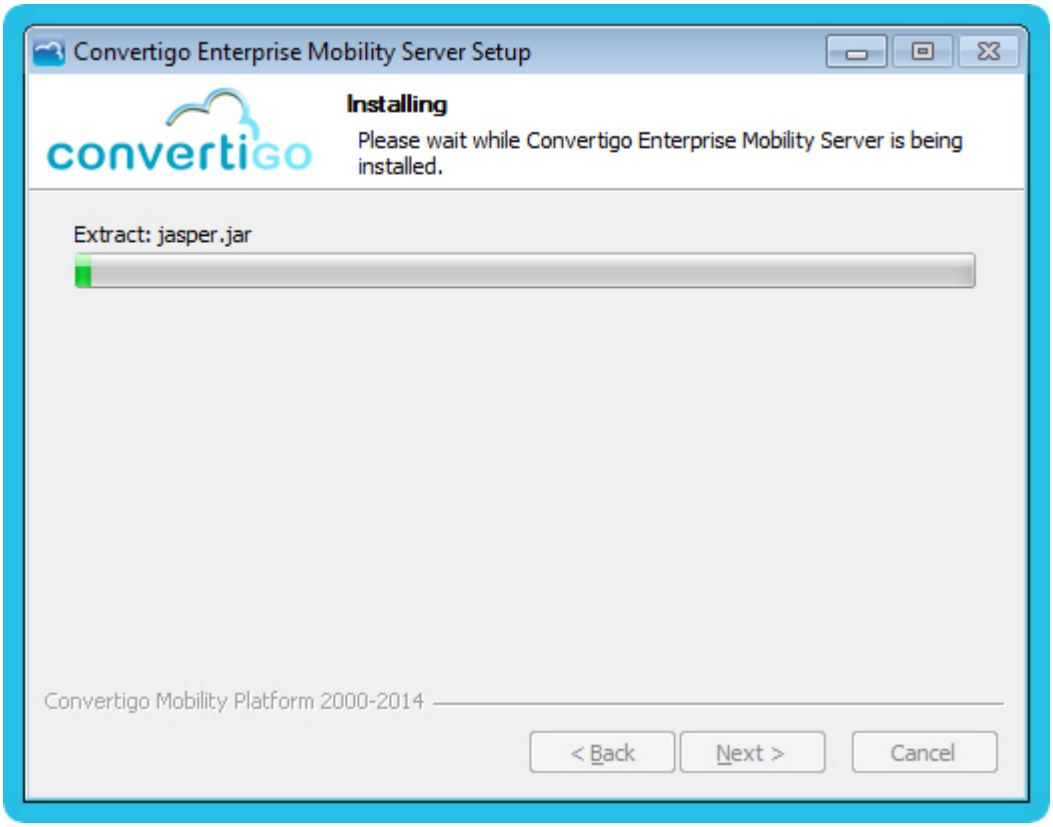


Figure 3 - 7: Start of the installation

The installation continues:

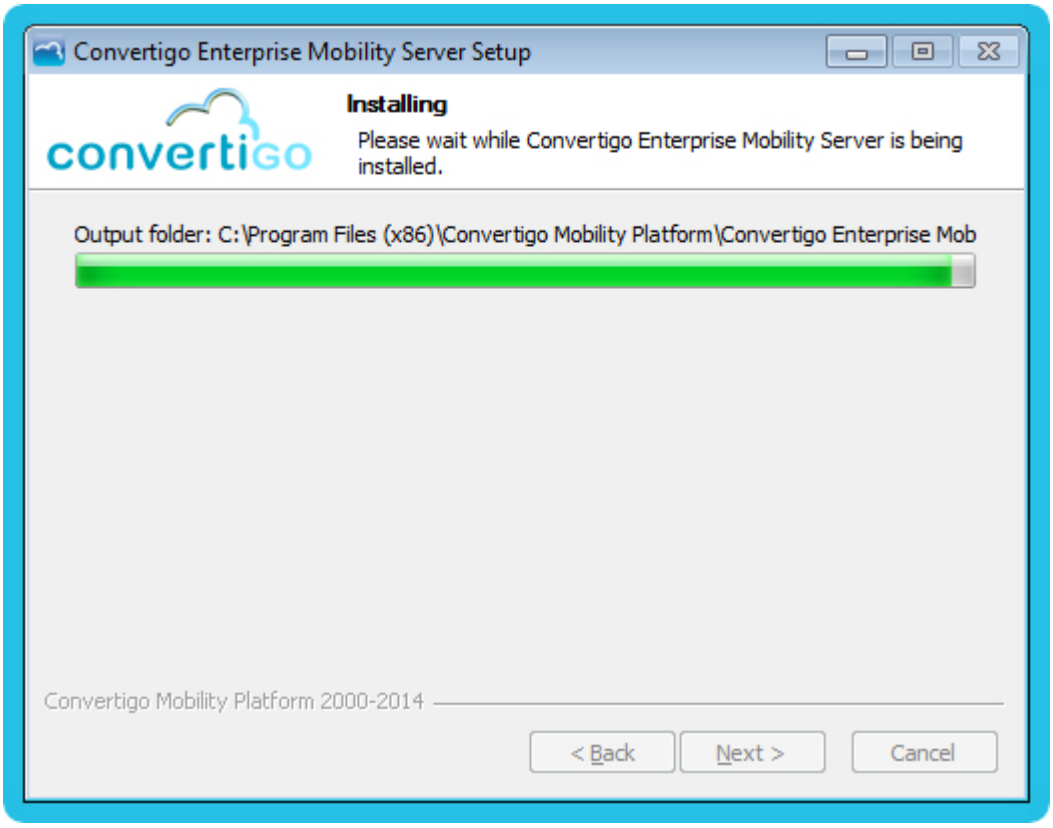


Figure 3 - 8: Installation in progress

This screen indicates the end of installation:

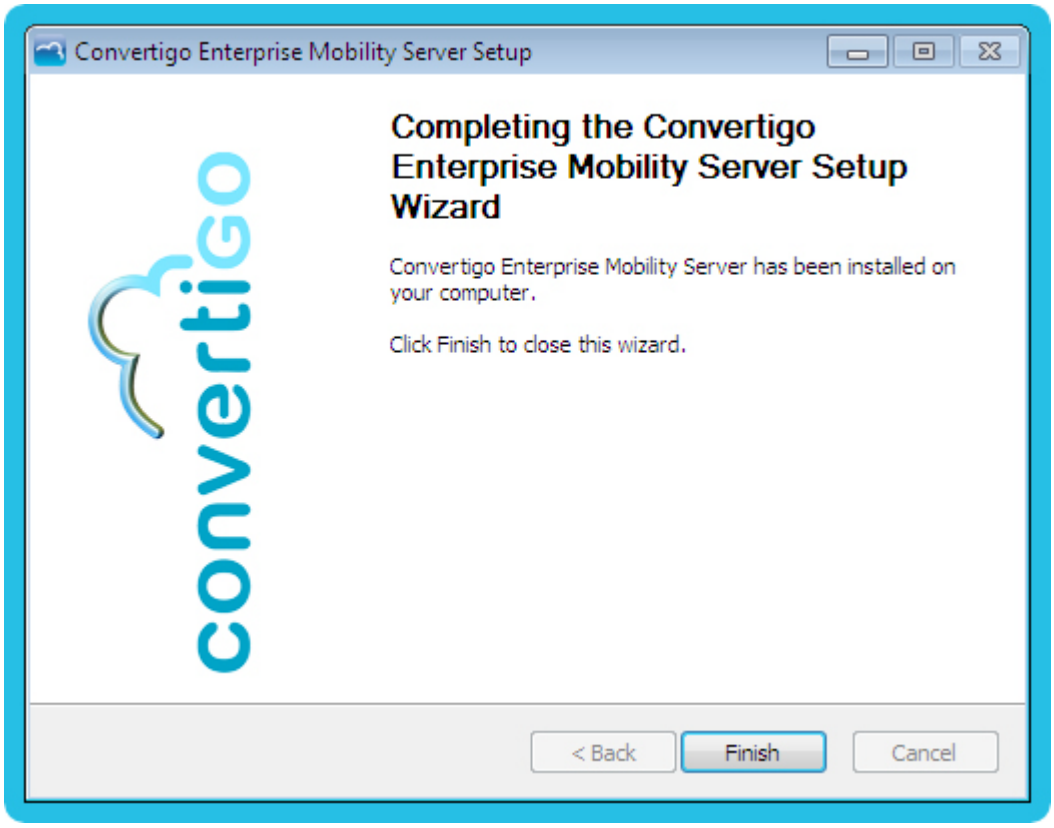


Figure 3 - 9: End of the installation

9 Click on **Finish** to close the wizard.

10 In Windows ***Start*** menu, open the *Control Panel*. Then, open the **Services** window from the *Administrative tools*.

In the **Services** window, *Convertigo Server* service must be present, with a `Started` status and `Automatic` startup type:

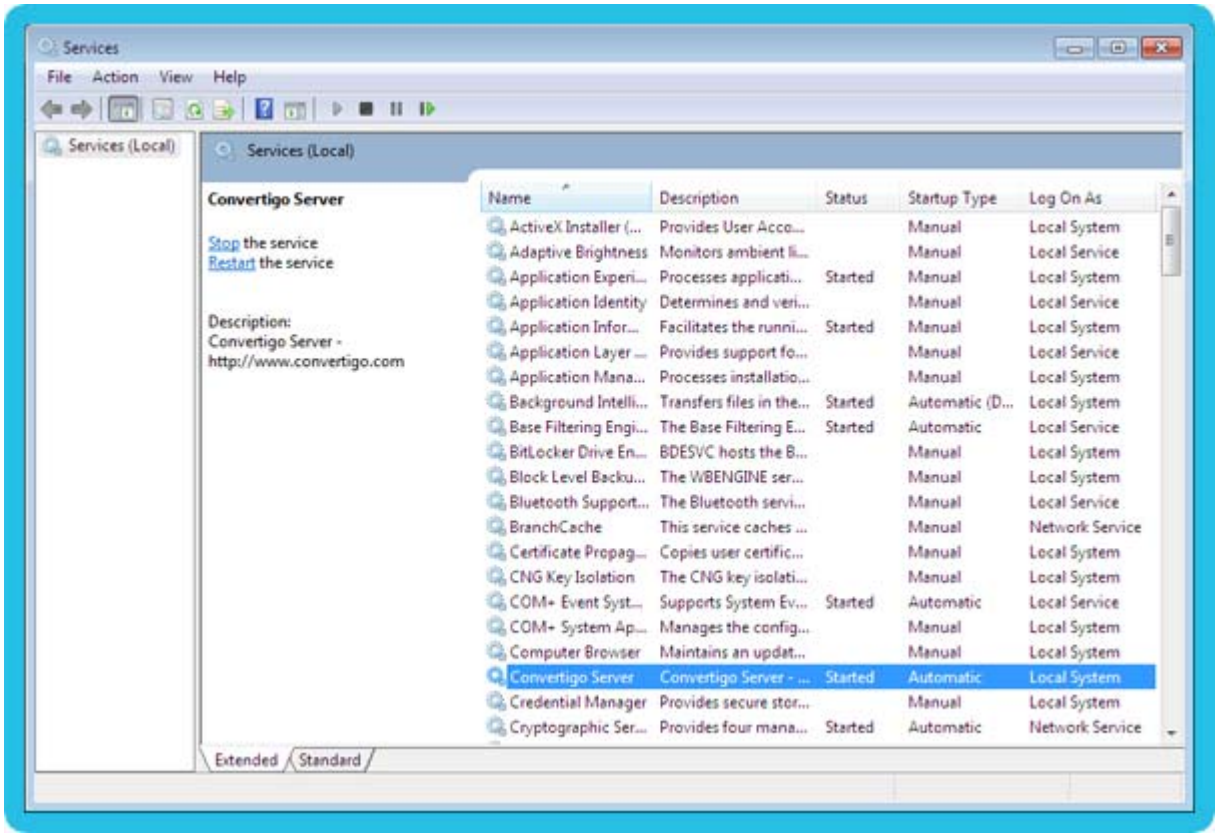


Figure 3 - 10: Services panel after Convertigo Server installation

11 The installation can be validated by calling the following URL in a Web browser:

```
http(s)://<ConvertigoServer>:<ConvertigoPort>/convertigo/admin
```

- *ConvertigoServer* is the host name or IP address of your server (`localhost` for local server installation),
- *ConvertigoPort* is the port number of your Convertigo Server (`28080` by default for HTTP port).

The Convertigo Server Administration Console opens on the authentication page:

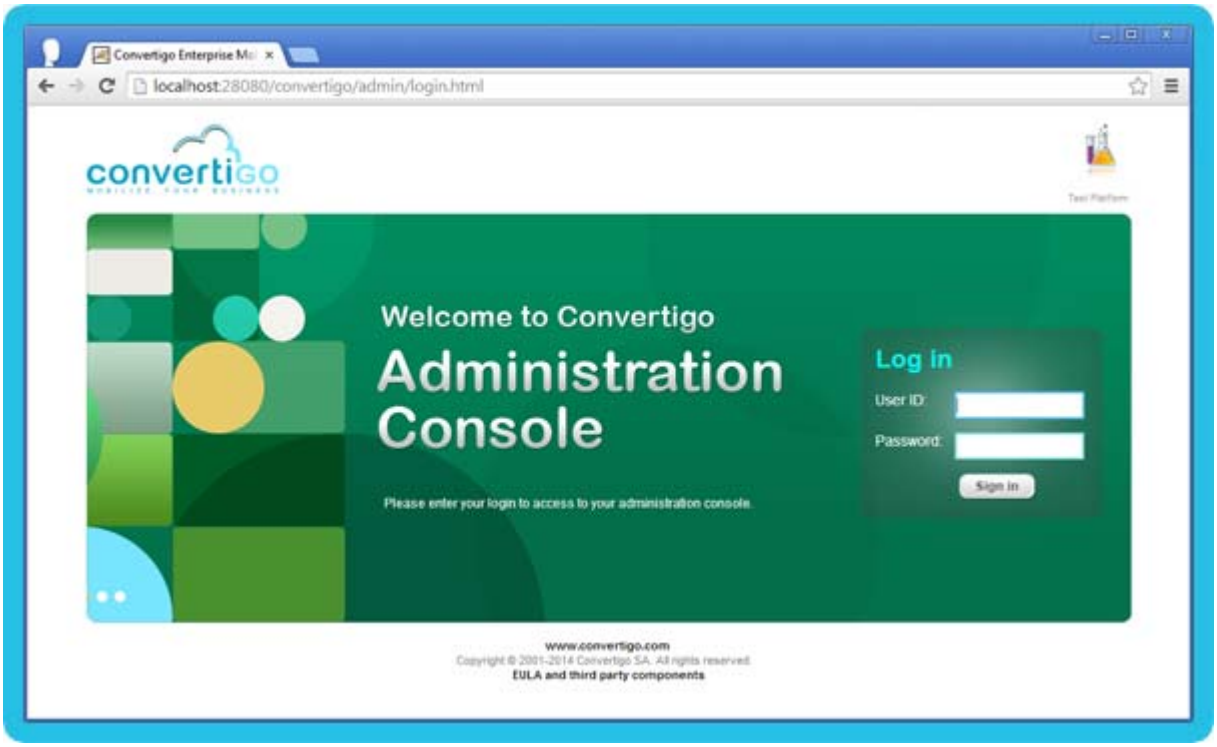


Figure 3 - 11: Convertigo Server Administration authentication page

3.2.2 Convertigo Server default configuration on Windows/Tomcat

After you installed Convertigo Server on Windows, you may want to use or change the default access URLs to the Convertigo engine, the default accounts or the default workspace location. This section presents all the needed information about Convertigo Server default configurations.

CONVERTIGO SERVER DEFAULT CONFIGURATIONS AND ACCESS URLS

CONVERTIGO SERVER DEFAULT WEBAPP BEHAVIOR ON WINDOWS/TOMCAT

Convertigo Server is installed as a Tomcat webapp. It is installed as a `war` deployed in the Tomcat application server.

Convertigo Server `war` cannot work unexploded in the application server.

Convertigo Server is installed as a service with `Automatic` **Startup type**: it will start automatically at Windows startup.

CONVERTIGO SERVER DEFAULT WORKSPACE ON WINDOWS/TOMCAT

Convertigo Server installer on Windows/Tomcat sets by default the workspace directory in the user's home directory, as a `convertigo_server` folder. It gives a path of the following form: `C:/Users/me/convertigo_server`

For more information on Convertigo workspace and projects workspace, see Appendix "Convertigo workspace" on page A - 2.

You may have changed this path while installing, see Figure 3 - 6.

CONVERTIGO SERVER DEFAULT PORTS ON WINDOWS/TOMCAT

Convertigo Server and Tomcat application server are intalled by default to listen on the following ports:

- `28080` for HTTP,
- `28443` for HTTPS (Convertigo Server enables HTTPS by default after installation).

CONVERTIGO SERVER ADMINISTRATION CONSOLE URLS

Convertigo Server Administration Console is accessible at the following URL:

- in HTTP:

```
http://localhost:28080/convertigo/admin
```

  - `localhost` is the host name of local machine (as Convertigo Server is installed locally),
  - `28080` is the default HTTP port number of a Convertigo Server.

- in HTTPS:

```
https://localhost:28443/convertigo/admin
```

  - `localhost` is the host name of local machine (as Convertigo Server is installed locally),
  - `28443` is the default HTTPS port number of a Convertigo Server.

The *Administration Console* authentication page of the Convertigo Server opens:

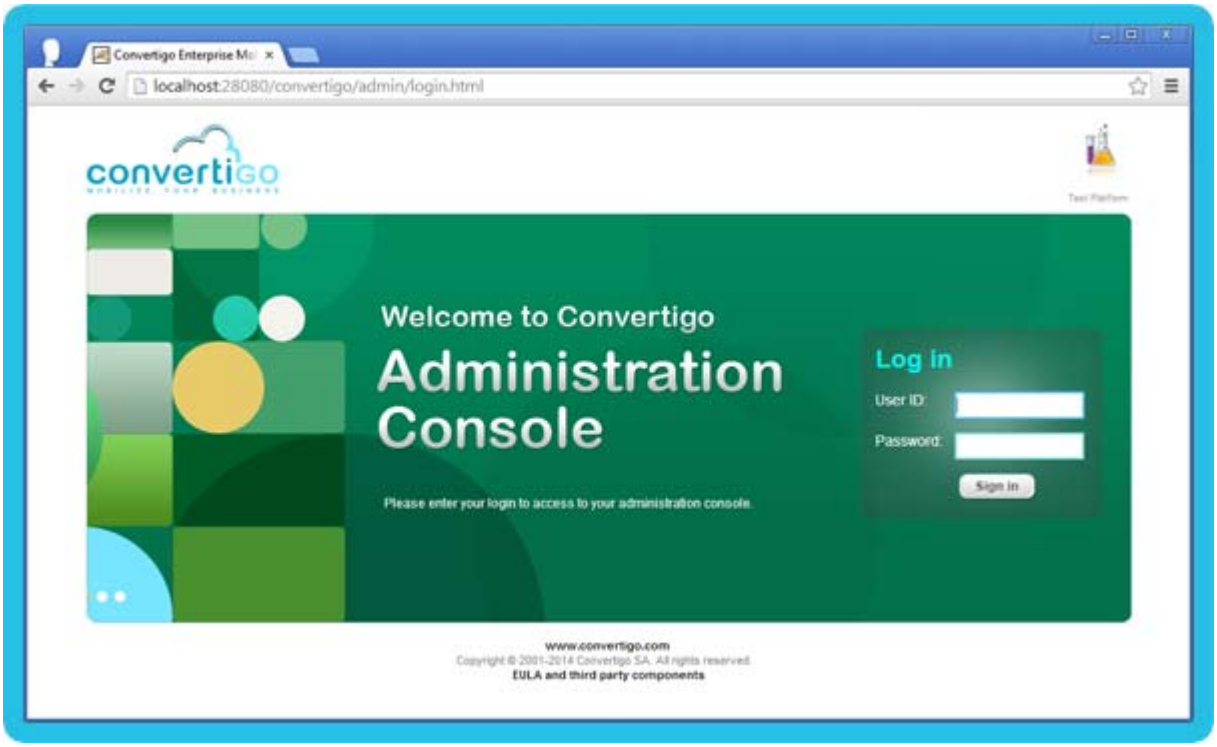


Figure 3 - 12: Convertigo Server Administration authentication page

For more information about the Administration Console, see "Using Convertigo Administration Console" on page 4 - 1.

CONVERTIGO SERVER TEST PLATFORM URLS

Convertigo Server Test Platform is accessible at the following URL:

- in HTTP:

```
http://localhost:28080/convertigo
```

  - `localhost` is the host name of local machine (as Convertigo Server is installed locally),
  - `28080` is the default HTTP port number of a Convertigo Server.

- in HTTPS:

```
https://localhost:28443/convertigo
```

  - `localhost` is the host name of local machine (as Convertigo Server is installed locally),
  - `28443` is the default HTTPS port number of a Convertigo Server.

The *Test Platform* home page of the Convertigo Server opens:

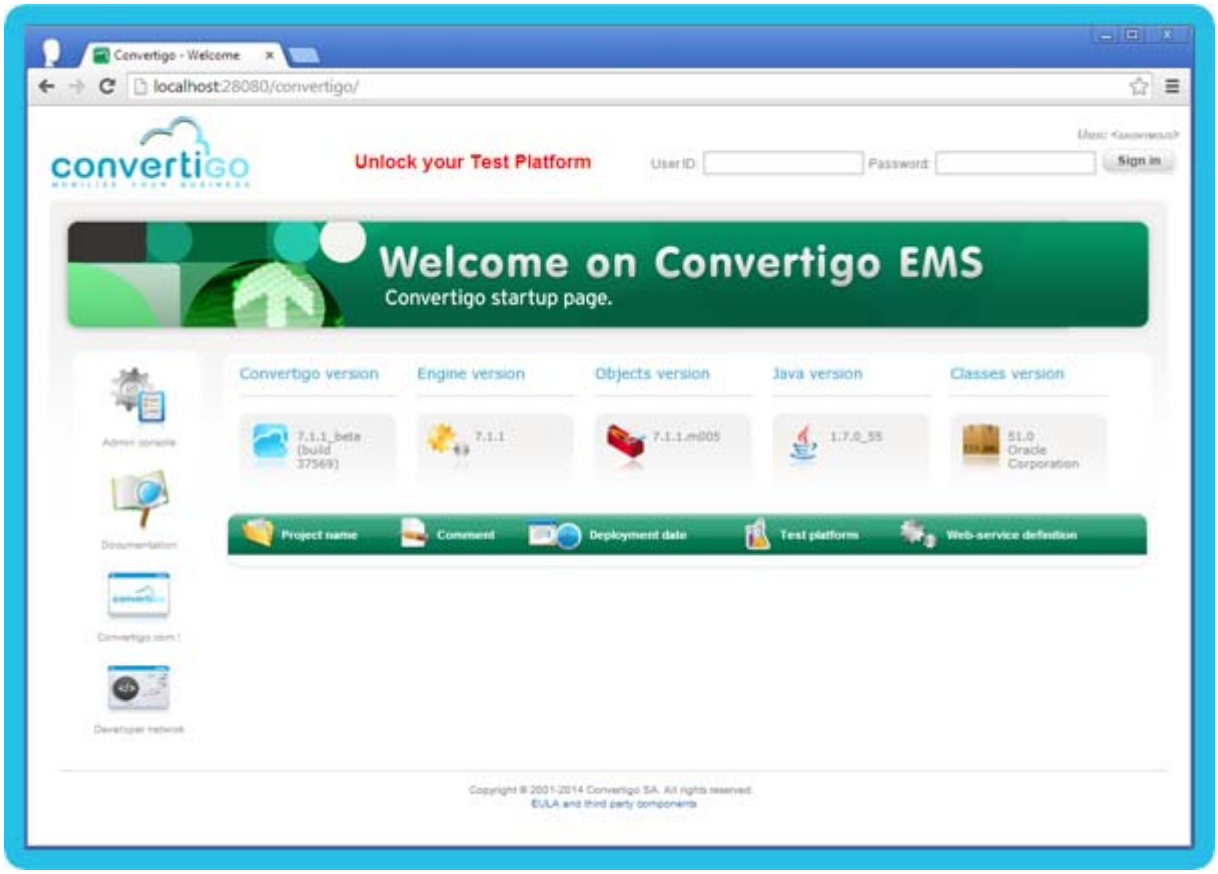


Figure 3 - 13: Convertigo Server Test Platform

Here, the *Test Platform* home page contains projects in the list of projects, these projects are those deployed in the Server.

For more information about the Test Platform, you can consult the Using the Test Platform chapter of the User Guide (coming soon).

Convertigo Server default accounts

Convertigo Server declares by default the following accounts:

- **administrator** account, which user ID/password is `admin`/`admin`, used to access the *Administration Console* and the *Test Platform*,
- no **tester** account is defined by default, you access the *Test Platform* as **anonymous** user,
- **Tomcat administrator** account, which user ID/password is `admin`/`admin`, used to access the *Tomcat Manager* application.

For more information about the Test Platform accounts, you can consult the Using the Test Platform chapter of the User Guide (coming soon).

Changing Convertigo Server default configurations

Changing Convertigo Server default workspace

If you are using Windows Operating System and Tomcat Application Server, the Convertigo workspace can be specified after Convertigo installation by using the Tomcat Configurator. The procedure is described below.

To change the Convertigo Server user workspace directory

1 You can find a shortcut icon in Windows taskbar, named *Convertigo Server*:

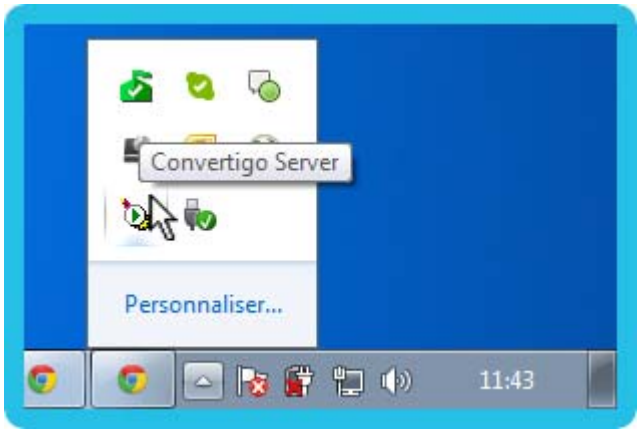


Figure 3 - 14: Convertigo Server Tomcat Configurator shortcut in taskbar

2 Right-click on this icon and select the **Configure...** option.

If the shortcut is not present in Windows taskbar, you can also locate in Tomcat installation directory the file `tomcatXw.exe` and run it.

The Convertigo Server Properties window opens:

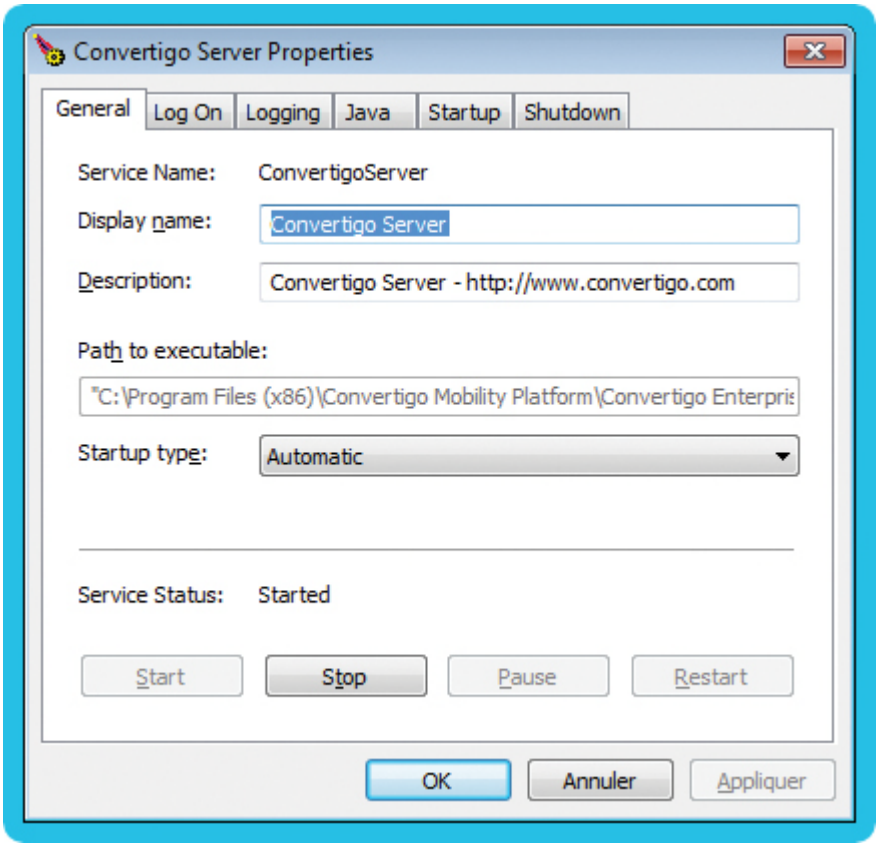


Figure 3 - 15: Convertigo Server Tomcat Configurator

3 Click on the *Java* tab.

4 In *Java Options* section, you can add (or update the entry if already existing):

```
-Dconvertigo.cems.user_workspace_path=
<absolute_path_to_the_user_workspace_directory>
```

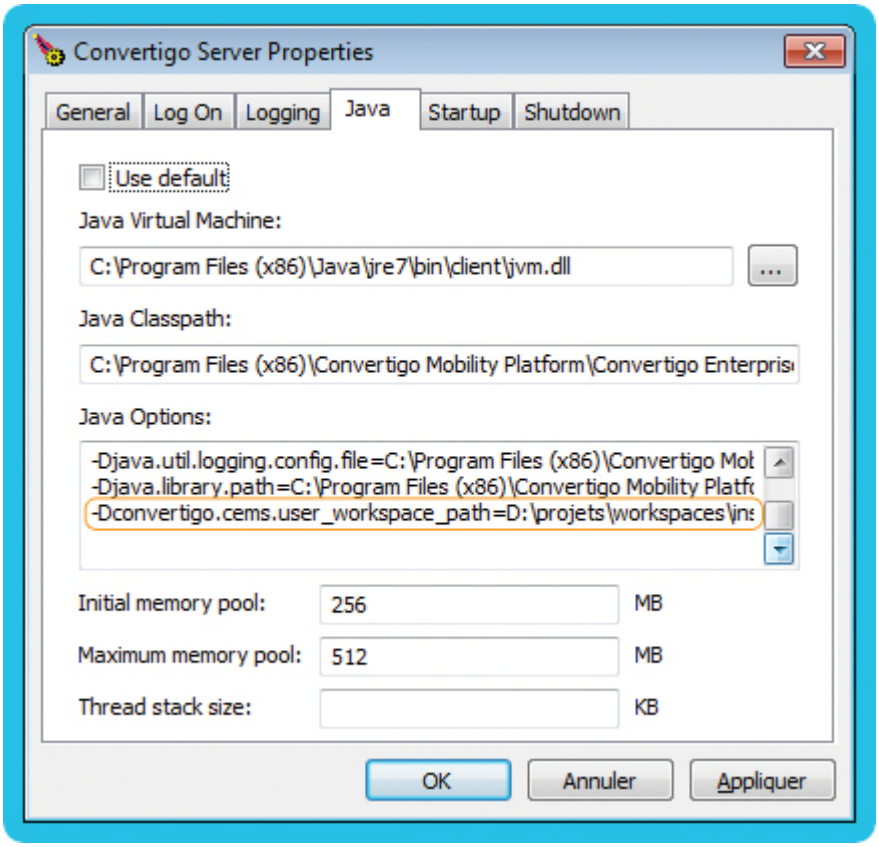


Figure 3 - 16: Updating Convertigo workspace in Tomcat Configurator

5 Then, you have to restart Tomcat for Convertigo to use the new Convertigo workspace.

Changing Convertigo Server default ports

Convertigo Server ports can be changed:

- HTTP port can be modified by following the procedure *"To change the Convertigo Server HTTP port"* on page 3 - 19,
- HTTPS port can be modified by following the procedure *"To change the Convertigo Server HTTPS port"* on page 3 - 19,

To change the Convertigo Server HTTP port

Coming soon.

To change the Convertigo Server HTTPS port

Coming soon.

Changing Convertigo Server service Startup type

If you are using Windows Operating System and Tomcat Application Server, the Convertigo service **Startup type** can be changed after Convertigo installation by using the Tomcat Configurator. The procedure is described below.

To change the Convertigo Server service Startup type

1 You can find a shortcut icon in Windows taskbar, named *Convertigo Server*:

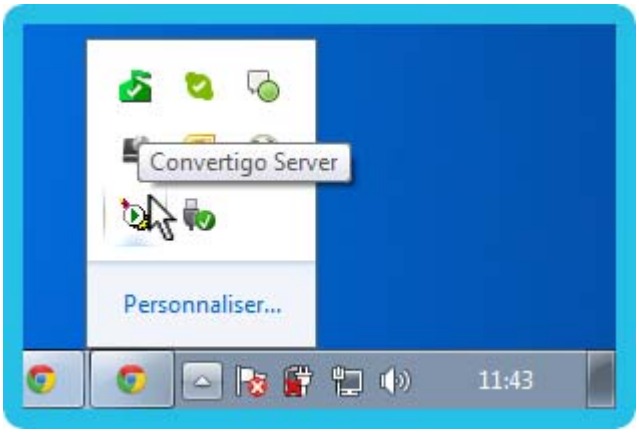


Figure 3 - 17: Convertigo Server Tomcat Configurator shortcut in taskbar

2 Right-click on this icon and select the **Configure...** option.

If the shortcut is not present in Windows taskbar, you can also locate in Tomcat installation directory the file `tomcatXw.exe` and run it.

The Convertigo Server Properties window opens:

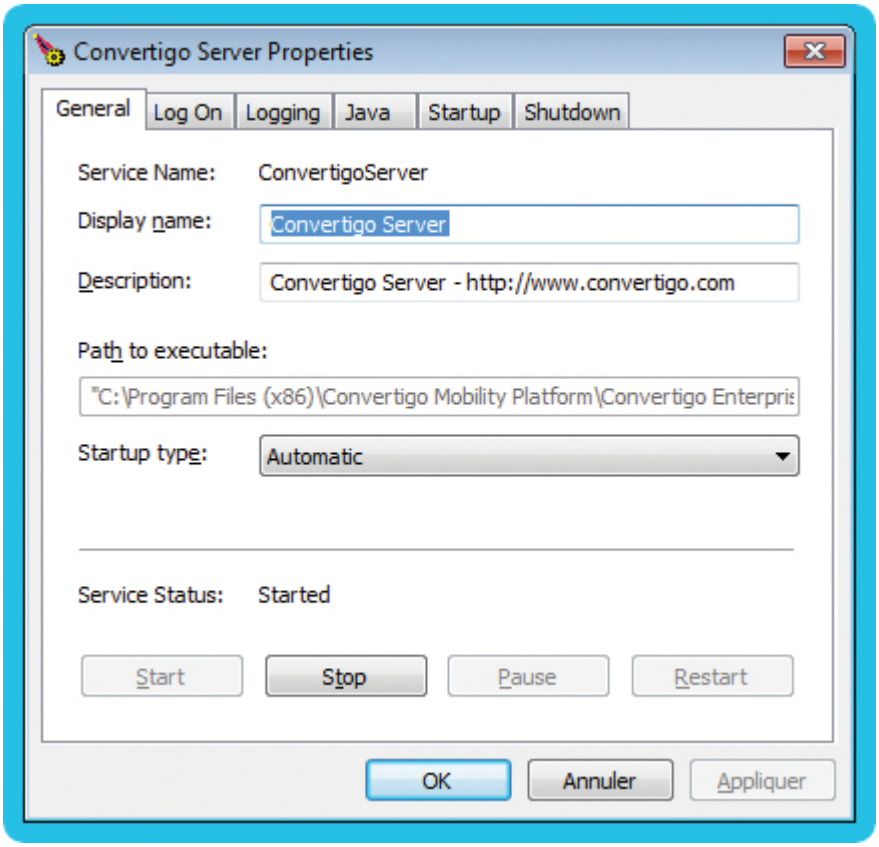


Figure 3 - 18: Convertigo Server Tomcat Configurator

3 In *General* section, you can change the Startup type through a combobox containing the following values:

- `Automatic`: the service will automatically start,
- `Manual`: the service can be manually started,
- `Disabled`: the service cannot be started.

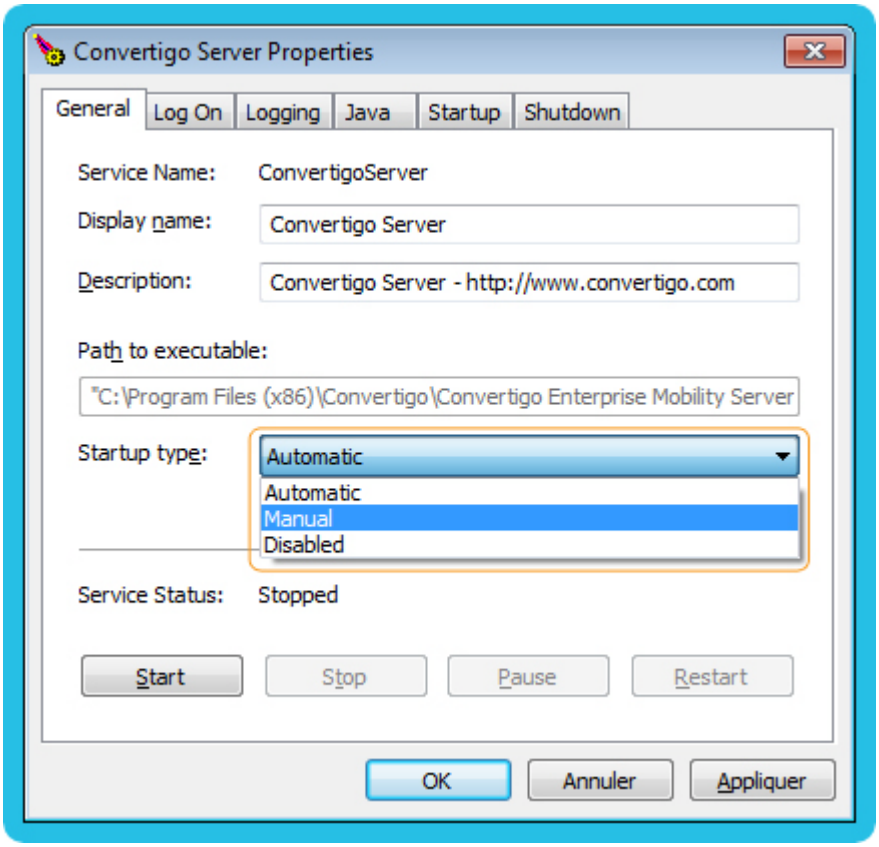


Figure 3 - 19: Updating Convertigo service Startup type

4 Then, you have to click on the **Apply** button for the update to be taken into account.

5 Click on the **OK** button to save the update and close the window;

Changing Convertigo Server default administration account

The Convertigo Server **administrator** account can be changed using the same procedure as for the Studio, see *"To change the Convertigo Studio administrator account"* on page 2 - 58.

Changing Convertigo Server default tester account

As no **tester** account is defined by default after Server installation, such an account can be declared using the same procedure as for the Studio, see *"To declare or change the Convertigo Studio tester account"* on page 2 - 59. This procedure is also valid if you want to change the **tester** account afterwards.

3.3 C-EMS installation on Linux/Tomcat

This chapter explains how to install C-EMS on Linux with Tomcat application server and and what are the default configurations of C-EMS and how to use/change them:

- Installing C-EMS on Linux/Tomcat
- Convertigo Server default configuration on Linux/Tomcat

3.3.1 Installing C-EMS on Linux/Tomcat

PREREQUISITES

SERVER PREREQUISITES

The minimum server prerequisites for installing Convertigo Server are the following:

- **CPU**: Dual Core,
- **RAM**: 4Gb,
- **Disk space**: 10Gb.

The following table describes the required packages to install prior to Convertigo Server installation, depending on the Linux OS and version:

Table 3 - 3: Packages prerequisites

	Version	Packages 32 bits
RedHat 32 bits	starting from version 5.2 32 bits	• `xulrunner-1.9.0.19-1.el5_5` and all dependencies • `libXtst-1.0.1-3.1.i386` and all dependencies • `xorg-x11-fonts-Type1-7.1-2.1.el5` • `unzip` • `glibc` and all dependencies • `libXi` and all dependencies
RedHat 64 bits	starting from version 5.2 64 bits	• `xulrunner-1.9.0.19-1.el5_5` and all dependencies • `libXtst-1.0.1-3.1.i386` and all dependencies • `xorg-x11-fonts-Type1-7.1-2.1.el5` • `unzip` • `glibc.i686` and all dependencies • `libXi` and all dependencies
Ubuntu 32 bits	versions 8.04 (LTS) , 10.04 (LTS) and 12.04 (LTS) 32 bits	• `libgtk2.0-0` • `libxt6` • `libxtst6` • `unzip` • `glibc` and all dependencies
Ubuntu 64 bits	versions 8.04 (LTS) , 10.04 (LTS) and 12.04 (LTS) 64 bits	• `libgtk2.0-0` • `libxt6` • `libxtst6` • `unzip` • `glibc` and all dependencies • `ia32-libs`

Table 3 - 3: Packages prerequisites (...)

	Version	Packages 32 bits
Ubuntu 64 bits	version 14.04 (LTS) 64 bits	• `lib32z1` • `libgtk2.0-0:i386` • `libstdc++6:i386` • `libxft2:i386` • `libxt6:i386` • `libxtst6:i386`
Debian 32 bits	version 6.0	• `libgtk2.0-0` • `libxt6` • `libxtst6` • `unzip` • `bzip2` • `glibc` and all dependencies
Debian 64 bits	version 6.0	• `libgtk2.0-0` • `libxt6` • `libxtst6` • `unzip` • `bzip2` • `glibc` and all dependencies • `ia32-libs`

Specified packages are necessary for using web connectors or legacy connectors. These lists of packages are not exhaustive. If you have problems with your installation of Converrtigo Server on Linux/Tomcat, please contact us.

INSTALLATION REQUIREMENTS

- The C-EMS installer file: convertigo-*X.Y.Z*-v*12345*-linux32.run.zip
- You must have root privileges to run this installer script (with `sudo` prefix or logged in with `root` user).

INSTALLATION PROCEDURE

The following procedure explains step by step how to install C-EMS including Tomcat application server on RedHat or Ubuntu.

To install Convertigo Server on Linux with Tomcat application server

1 Unzip the installation file `convertigo-X.Y.Z-v12345-linux32.run.zip` in a temporary directory (not with root privileges):

```
# unzip convertigo-server-X.Y.Z-v12345-linux32.run.zip

Archive:  convertigo-server-X.Y.Z-v12345-linux32.run.zip

 inflating: convertigo-server-X.Y.Z-v12345-linux32.run

#
```

2 Make the unzipped `convertigo-server-X.Y.Z-v12345-linux32.run` script executable:

```
# chmod +x convertigo-server-X.Y.Z-v12345-linux32.run
```

3 Run the `convertigo-server-X.Y.Z-v12345-linux32.run` script:

Use root privileges from here.

```
# ./convertigo-server-X.Y.Z-v12345-linux32.run

Verifying archive integrity... All good.

Uncompressing convertigo-server-X.Y.Z-v12345-linux32 ..........

.............................................................
```

4 The installer starts by displaying the end-user licence agreement, here is an extract:

```
===========================================================
Convertigo Enterprise Mobility Server installation program
===========================================================
You first have to accept the Convertigo End User License
Agreement (EULA)
Press <return> to start reading the Convertigo EULA...
============================
Convertigo Community Edition
============================
Convertigo Community Edition is available under Affero GPL V3
License and can be
used for free.
- Affero GPL V3 License can be accessed at:
  http://www.gnu.org/licenses/agpl-3.0.html

[...]

You should read carefully the agreements covering the Third
Party Software. Each

of these agreements or terms can be accessed via

www.convertigo.com/EEand3rdpartycomponents. By installing and
using this Third

--More--(7%)
```

5 You should read the whole EULA by scrolling down.

```
================== End of Convertigo EULA ==================

Do you accept the Convertigo EULA? (yes/no)
```

6 You must accept the EULA in order to continue the installation.

If you do not accept the EULA, the installation is cancelled.

```
================== End of Convertigo EULA ==================

Do you accept the Convertigo EULA? (yes/no)

yes

The Convertigo EULA has been fully accepted, continuing the
installation process...

Do you want to create 'convertigoMobilityPlatform' user? (yes/
no)
```

7 You can precise the linux user you want to use:

```
Do you want to create 'convertigoMobilityPlatform' user ? (yes/
no)

yes

CEMS user 'convertigoMobilityPlatform' home: /home/
convertigoMobilityPlatform
```

The convertigo workspace will be created in the user home directory.

For more information on Convertigo workspace, see Appendix "Convertigo workspace" on page A - 2.

8 You can precise the installation path:

```
Where do you want to install CEMS ?

(Default is /opt/convertigoMobilityPlatform, just hit return to
use this path)
```

9 Then, the installation continues for a few minutes:

```
Create CEMS directory: /opt/convertigoMobilityPlatform

Copying JRE …

Copying Tomcat …

Unzip Convertigo webapp …

Creating Convertigo workspace: /home/convertigoMobilityPlatform
/convertigo

Change owner of /opt/convertigoMobilityPlatform for
convertigoMobilityPlatform …

Change owner of /home/convertigoMobilityPlatform/convertigo
for convertigoMobilityPlatform …

Copy starting script …
```

10 Depending on the Linux distribution:

- On Ubuntu:

```
Creating auto start links with update-rc.d …

 Adding system startup for /etc/init.d/convertigoMobility
Platform ...

   /etc/rc0.d/K88convertigoMobilityPlatform -> ../init.d/
convertigoMobilityPlatform

   /etc/rc1.d/K88convertigoMobilityPlatform -> ../init.d/
convertigoMobilityPlatform

   /etc/rc6.d/K88convertigoMobilityPlatform -> ../init.d/
convertigoMobilityPlatform

   /etc/rc2.d/S88convertigoMobilityPlatform -> ../init.d/
convertigoMobilityPlatform

   /etc/rc3.d/S88convertigoMobilityPlatform -> ../init.d/
convertigoMobilityPlatform

   /etc/rc4.d/S88convertigoMobilityPlatform -> ../init.d/
convertigoMobilityPlatform

   /etc/rc5.d/S88convertigoMobilityPlatform -> ../init.d/
convertigoMobilityPlatform
```

- Or on Debian:

```
Creating auto start links with update-rc.d …

update-rc.d: using dependency based boot sequencing
```

The procedure is automatically creating startup links. Continue with step 12 of the procedure.

- Or on RedHat distribution:

```
update-rc.d is not installed, create links to rc.d runlevels

Create this with 'ln -s'? (yes/no)
```

11 Answer the question.

We recommend to anwser 'yes' as it eases accessing Convertigo startup command:

```
Create this with 'ln -s'? (yes/no)

yes

create symbolic link `K88convertigoMobilityPlatform' to `../
init.d/convertigoMobilityPlatform'

create symbolic link `K88convertigoMobilityPlatform' to `../
init.d/convertigoMobilityPlatform'

create symbolic link `S88convertigoMobilityPlatform' to `../
init.d/convertigoMobilityPlatform'

create symbolic link `S88convertigoMobilityPlatform' to `../
init.d/convertigoMobilityPlatform'

create symbolic link `S88convertigoMobilityPlatform' to `../
init.d/convertigoMobilityPlatform'

create symbolic link `S88convertigoMobilityPlatform' to `../
init.d/convertigoMobilityPlatform'

create symbolic link `K88convertigoMobilityPlatform' to `../
init.d/convertigoMobilityPlatform'
```

12 After the links creation, the procedure continues for all Linux distributions:

```
Installation finished, convertigo is ready to listen 28080 and
VNC to 5903.

Use /etc/init.d/convertigoMobilityPlatform [start|stop|status]
```

The installation is finished. By default, Convertigo Server is configured to be accessed on HTTP port `28080`, and the XVNC displaying the connectors monitors can be accessed on port `5903`.

For more information about connectors monitors, see the appendix "Connector monitoring windows" on page A - 5.

```
Do you want to start it now ? (yes/no)
```

13 You can start Convertigo Server at the end of the installation by answering 'yes' to this question.

```
Do you want to start it now ? (yes/no)

yes

Starting Convertigo Enterprise Mobility Server:
convertigoMobilityPlatform.
```

By default, Convertigo is in auto start mode.

14 The installation can be validated by calling the following URL in a Web browser:

```
http(s)://<ConvertigoServer>:<ConvertigoPort>/convertigo/admin
```

- *ConvertigoServer* is the host name or IP address of your server.
- *ConvertigoPort* is the port number of your Convertigo Server (`28080` by default for HTTP port).

The Convertigo Server *Administration Console* opens on the authentication page:

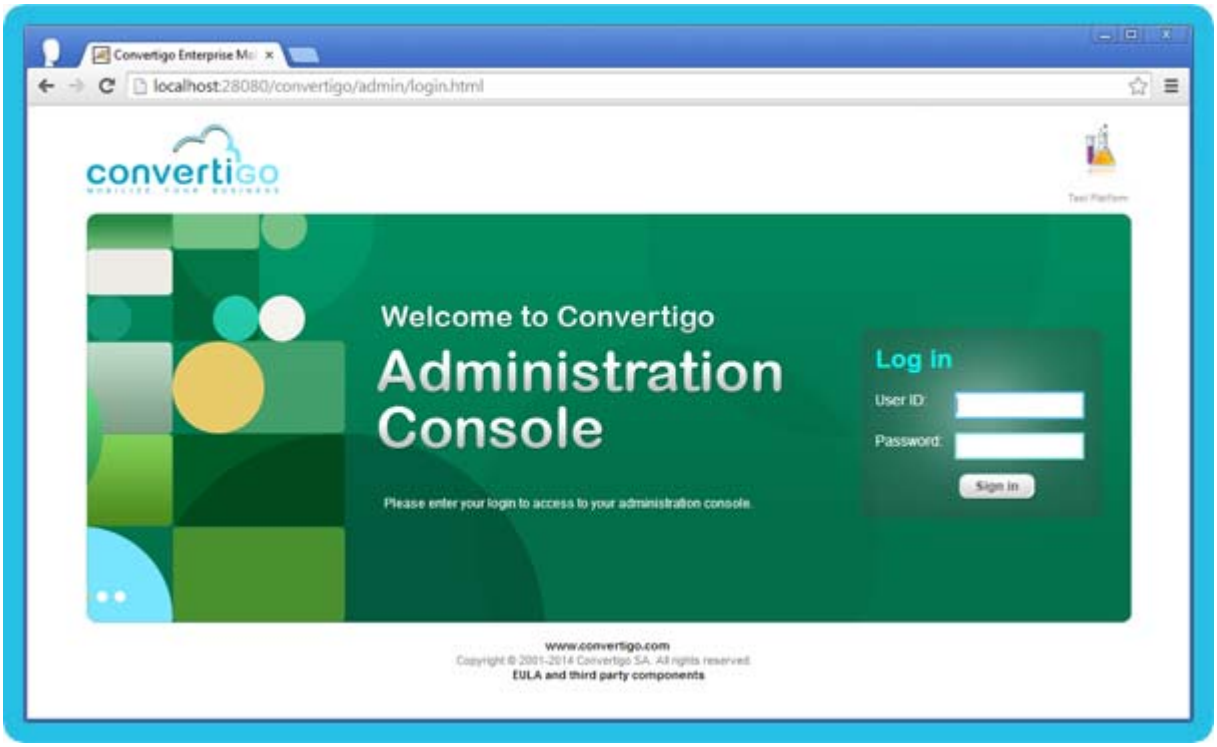


Figure 3 - 20: Convertigo Server Administration authentication page

3.3.2 Convertigo Server default configuration on Linux/Tomcat

After you installed Convertigo Server on Linux/Tomcat, you may want to start and stop Convertigo Server, use or change the default access URLs to the Convertigo engine, the default accounts or the default user workspace location. This section presents all the needed information about Convertigo Server default configurations.

START/STOP CONVERTIGO SERVER ON LINUX/TOMCAT

To start and stop Convertigo Server on Linux/Tomcat, you have to use root privileges. To do that, use the `sudo` prefix or log in with `root` user.

The following table contains the useful commands to start and stop Convertigo Server installed on Linux/Tomcat:

Table 3 - 4: Engine start and stop commands

Action	Command
start	`/etc/init.d/convertigoMobilityPlatform start`
stop	`/etc/init.d/convertigoMobilityPlatform stop`
restart	`/etc/init.d/convertigoMobilityPlatform restart`

CONVERTIGO SERVER DEFAULT CONFIGURATIONS AND ACCESS URLS ON LINUX/TOMCAT

CONVERTIGO SERVER DEFAULT WEBAPP BEHAVIOR ON LINUX/TOMCAT

Convertigo Server is installed as a Tomcat webapp. It is installed as a `war` deployed in the Tomcat application server.

Convertigo Server war cannot work unexploded in the application server.

Convertigo Server has to be started manually using the commands described in *"Start/Stop Convertigo Server on Linux/Tomcat"* on page 3 - 31.

CONVERTIGO SERVER DEFAULT WORKSPACE ON LINUX/TOMCAT

Convertigo Server installer on Linux/Tomcat sets by default the workspace directory in the

user's home directory, as a `convertigo` folder. It gives a path of the following form: `/home/convertigoMobilityPlatform/convertigo`

For more information on Convertigo workspace and projects workspace, see Appendix "Convertigo workspace" on page A - 2.

Convertigo Server default ports on Linux/Tomcat

Convertigo Server and Tomcat application server are intalled by default to listen on the following ports:

- `28080` for HTTP,
- `28443` for HTTPS (Convertigo Server enables HTTPS by default after installation).

The XVNC displaying the connectors monitors can be accessed on port `5903`.

For more information about connectors monitors, see the appendix "Connector monitoring windows" on page A - 5.

Convertigo Server Administration Console URLs, Test platform URLs and default accounts

Refer to the Convertigo Server installation on Windows for information: *"Convertigo Server default configuration on Windows/Tomcat"* on page 3 - 14.

Changing Convertigo Server default configurations on Linux/Tomcat

Changing Convertigo Server default workspace on Linux/Tomcat

The Convertigo Server workspace can be changed on Linux Operating System and Tomcat Application Server, using the following procedure.

To change the Convertigo Server workspace directory (Linux/Tomcat)

1. Locate the `convertigoMobilityPlatform` start file (usually in `/etc/init.d`) and open it for edition.
2. In the `export JAVA_OPTS` line, add or change parameter `-Dconvertigo.cems.user_workspace_path` to specify the location of your Convertigo workspace.

```
export JAVA_OPTS="$JAVA_OPTS
-Dconvertigo.cems.user_workspace_path=/home/convertigoTest/convertigo"
```

3. You have to restart Convertigo or Tomcat for Convertigo Server to use the new workspace location.

3.4 C-EMS installation on Linux/WebSphere

This chapter explains how to install C-EMS on Linux with WebSphere application server and all parametrization that has to be done to correctly run Convertigo Server. This chapter will describes procedures for WebSphere version 6 and for WebSphere version 7:

- Installing C-EMS on Linux/WebSphere 6
- Parameterizing C-EMS with WebSphere 6
- Installing C-EMS on Linux/clustered WebSphere 7
- Parameterizing C-EMS with WebSphere 7

3.4.1 Installing C-EMS on Linux/WebSphere 6

Installing Convertigo Server is possible on WebSphere version 6. This procedure completes the official IBM documentation to install an application.

PREREQUISITES

SERVER PREREQUISITES

The following table describes minimum server prerequisites for installing Convertigo Server:

Table 3 - 5: Server prerequisites

	RedHat/WebSphere
Version	• RedHat starting from version 5.2 • WebSphere starting from version 6
CPU	Dual Core
RAM	4 Gb
Disk space	10 Gb
Packages	• Package `xulrunner-1.9.0.19-1.el5_5` and all dependencies • Package `xorg-x11-fonts-Type1-7.1-2.1.el5`

Specified packages are necessary for using web connectors.

INSTALLATION REQUIREMENTS

- The C-EMS `.war` file: convertigo-*X.Y.Z*-v*12345*-linux32.war (for 32 bits version) or convertigo-*X.Y.Z*-v*12345*-linux64.war (for 64 bits version).
- You must know how to access WebSphere console. For example: `https://websphere_server:9043/ibm/console`
- You must know the user ID and password to connect to the WebSphere console.
- Convertigo workspace will be created in *home* directory. If the account used for installation doesn't have a *home* directory, add an *Environment Entry* named `HOME` with a value pointing on a directory where the Convertigo workspace will be created.

INSTALLATION PROCEDURE

The following procedure explains step by step how to install C-EMS on RedHat/WebSphere 6.

To install Convertigo Server on WebSphere 6

1 Connect to the WebSphere 6 console using the appropriate URL:

Figure 3 - 21: Connecting to WebSphere 6 console

2 Set administration credentials and validate by clicking he **Log in** button.

3 In the left menu, expand ***Applications*** and click on ***Install New Application*** submenu.

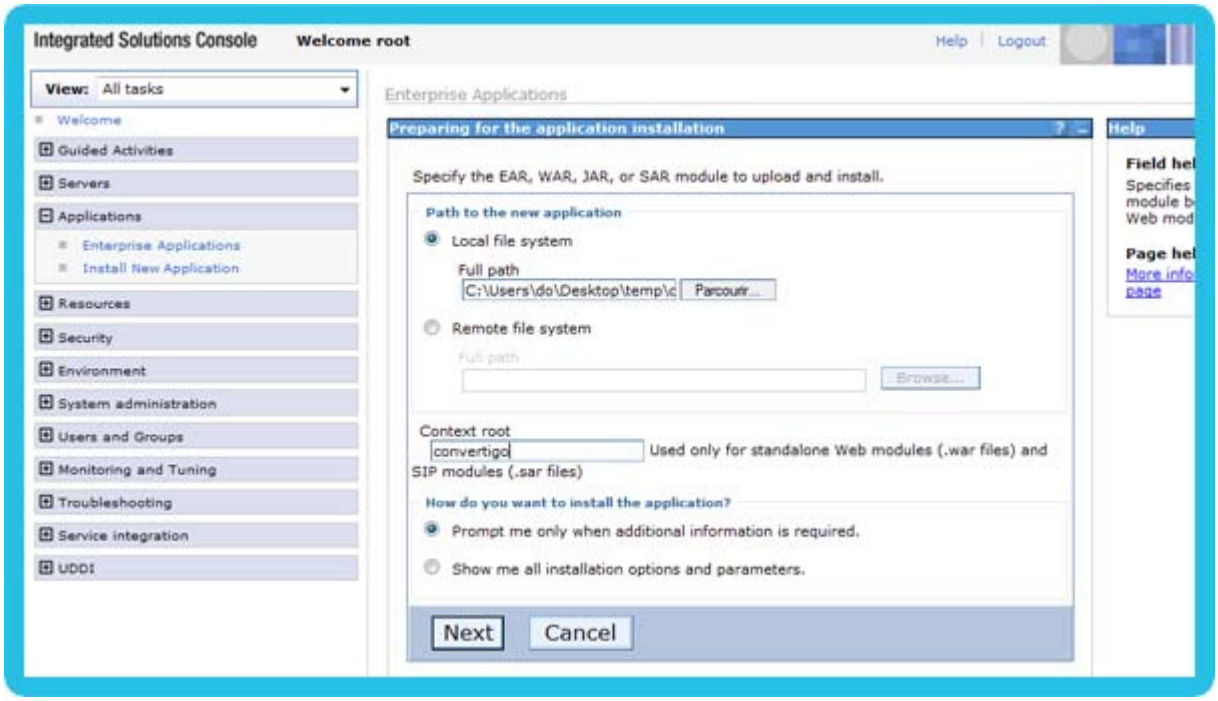


Figure 3 - 22: Installing new application in WebSphere 6

4 Set the full path of the `.war` file (or click on the **Browse** button to access to the file), define a name in the **Context root** input field (for example `convertigo`) and click on **Next**.

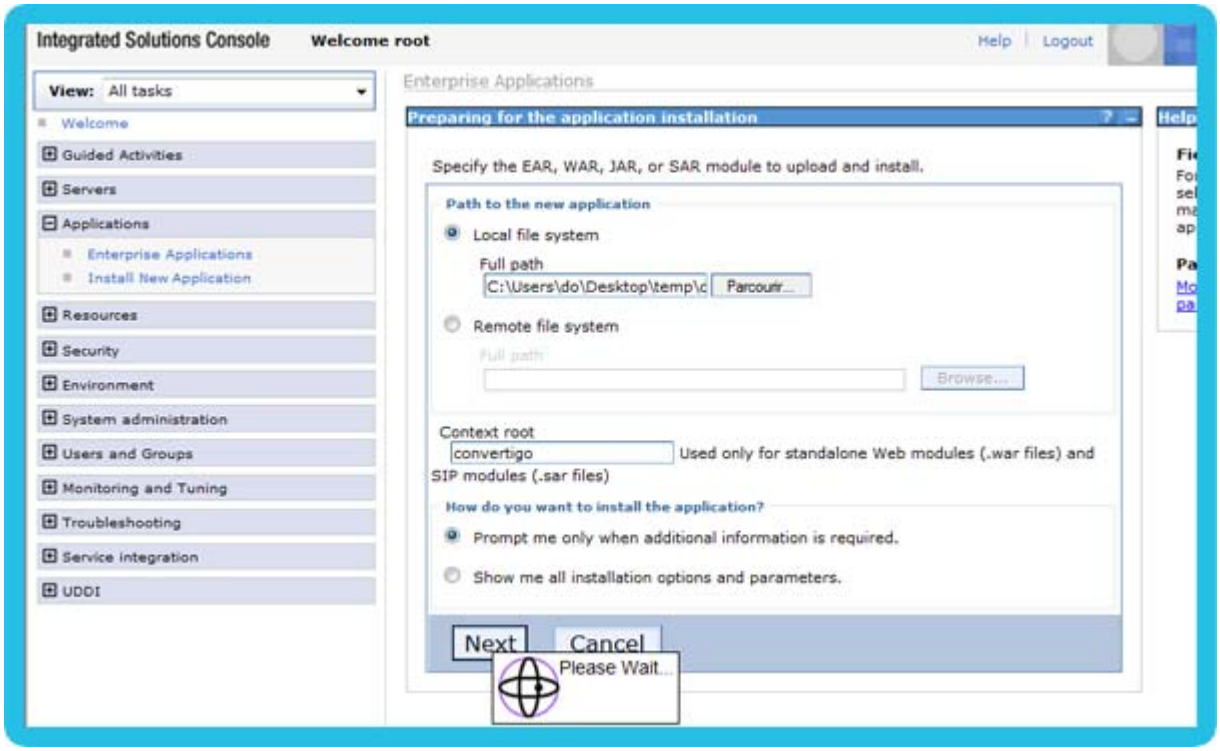


Figure 3 - 23: Convertigo .war file uploading in WebSphere 6

Convertigo .war file upload process may take a while.

5 Then, you are redirected to the application's installation page.

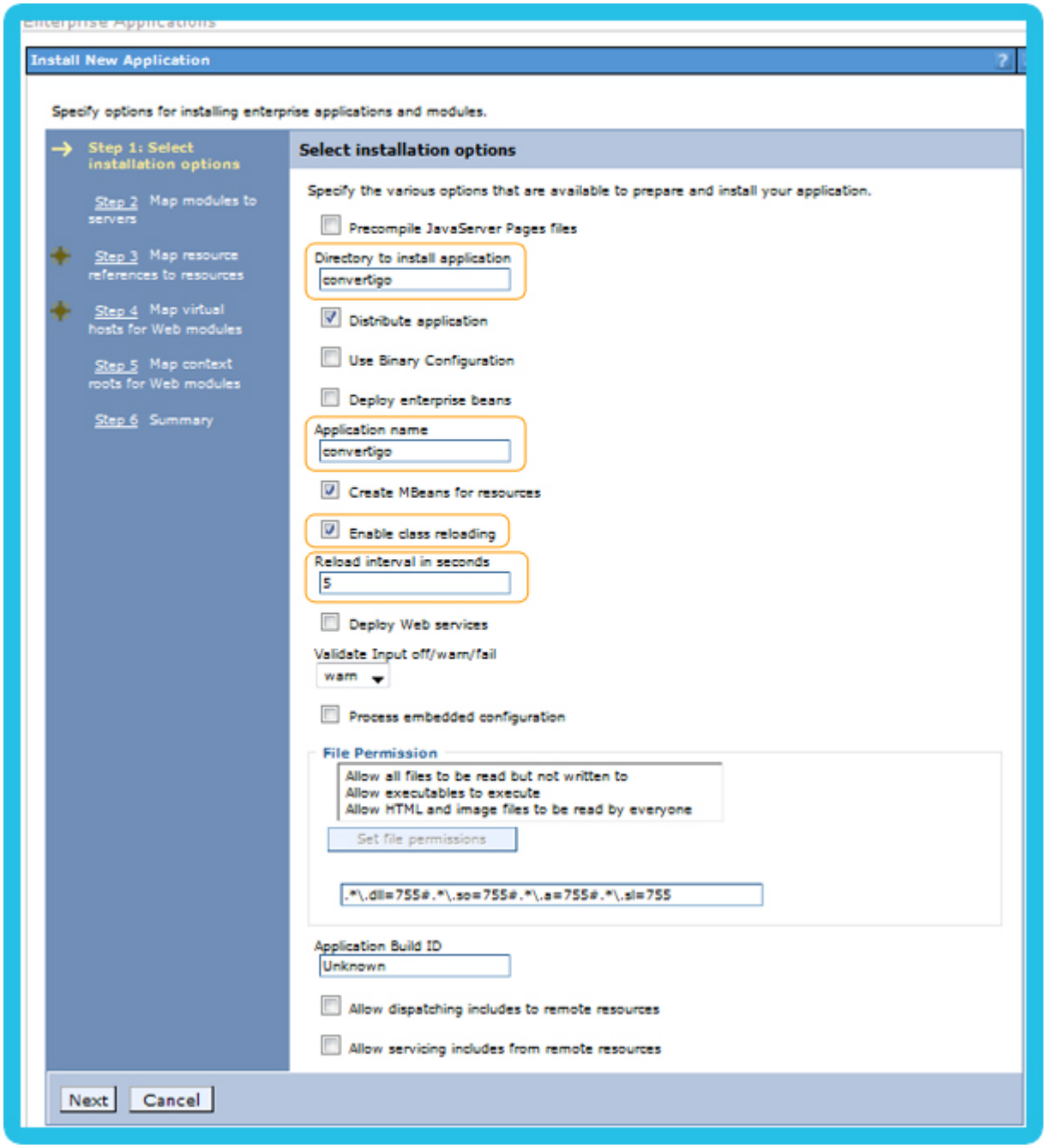


Figure 3 - 24: Convertigo installation options in WebSphere 6

6 In the *installation options* page, specify:

- specify the installation directory in **Directory to install application** input field,
- specify the application name in **Application name** input field,
- enable the class reloading by checking the **Enable class reloading** checkbox,
- and set class reloading interval in **Reload interval in seconds** input field (for example, 5 seconds).

7 Then, click on **Next**.

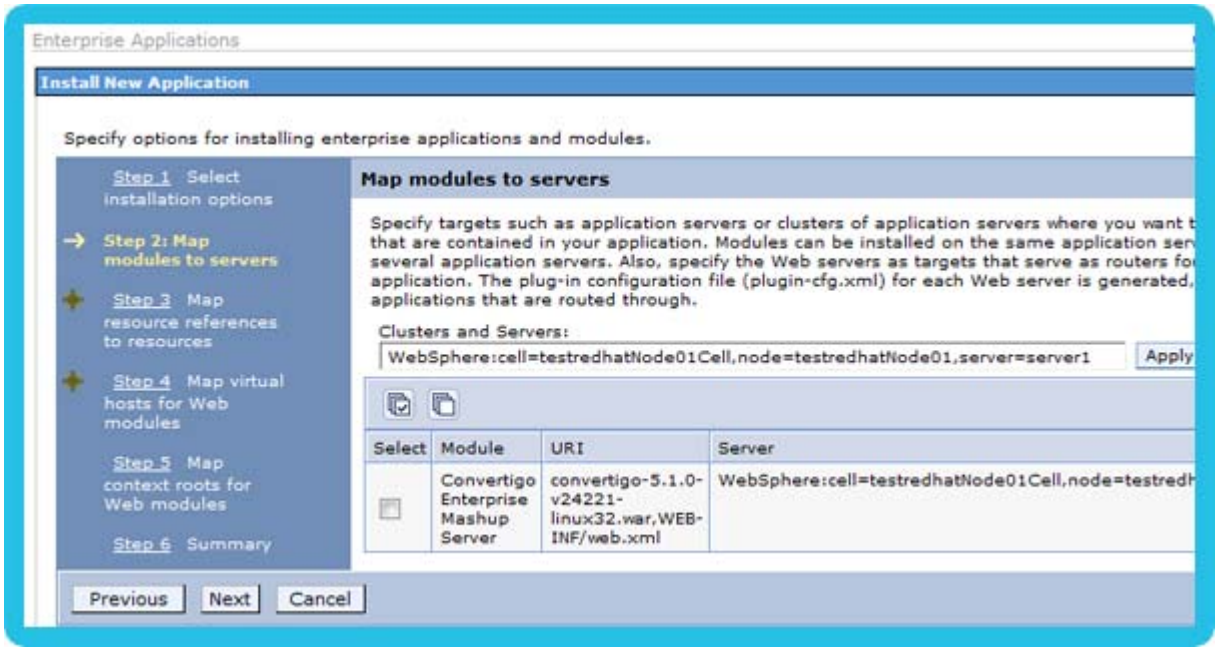


Figure 3 - 25: Convertigo installation Map modules to servers page in WebSphere 6

8 Click on **Next** until the *Summary* page.

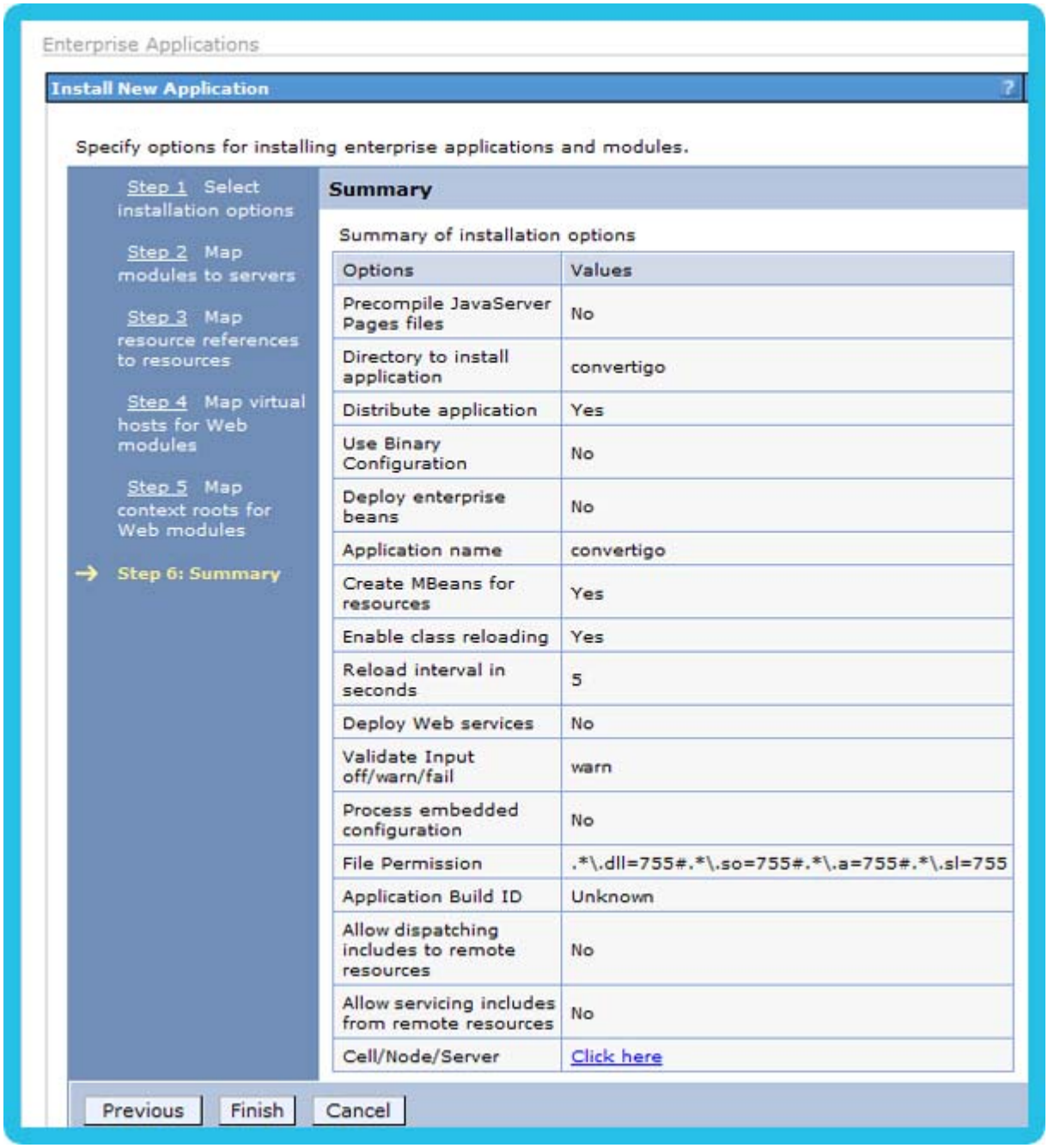


Figure 3 - 26: Convertigo installation Summary page

9 Then, click on **Finish**.

The **Installing...** page is displayed:

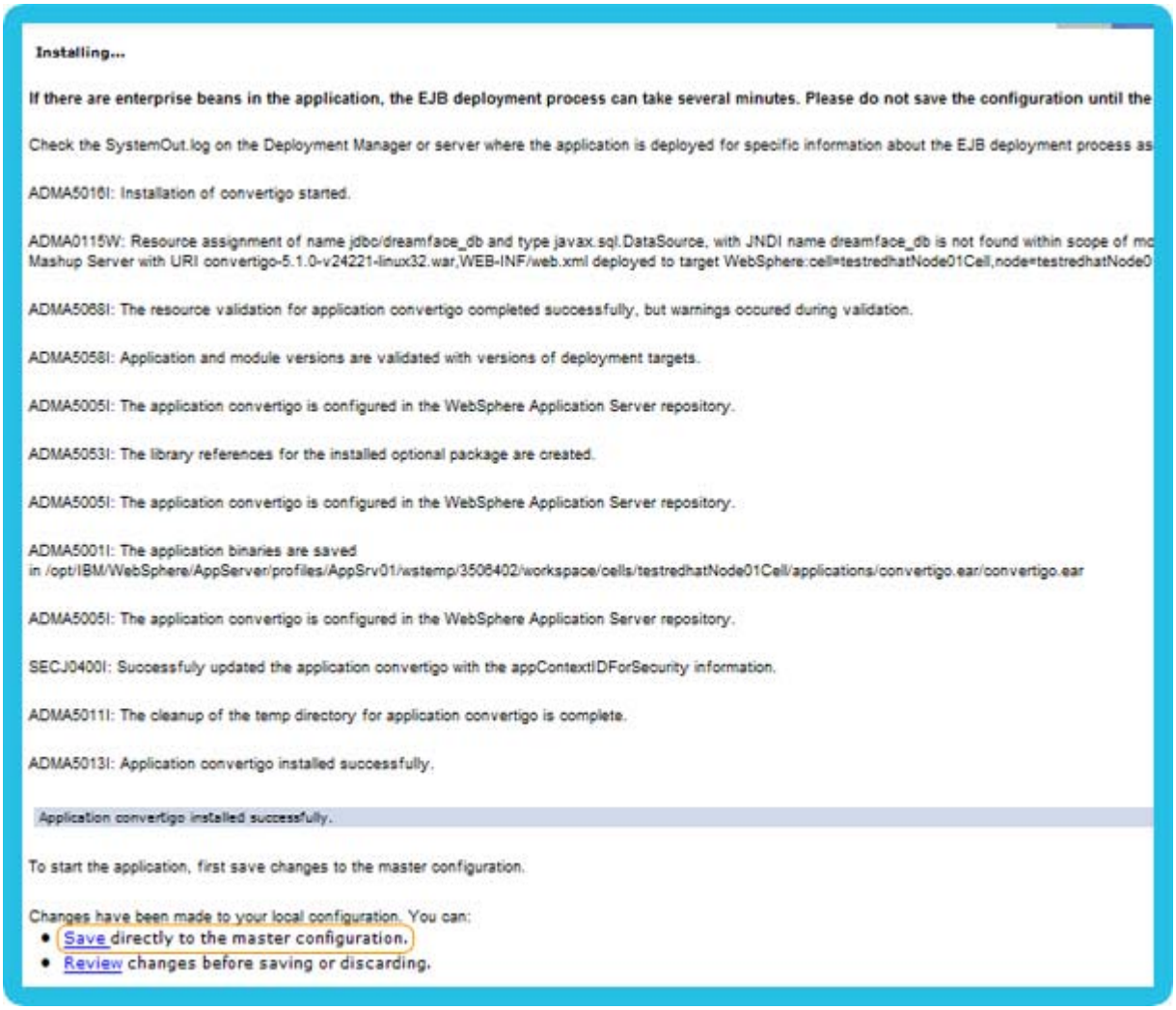


Figure 3 - 27: Convertigo installation Installing... page

10 Then, click on **Save directly to the master configuration**.

The `convertigo` application should now be visible in the *Enterprise Applications* page:

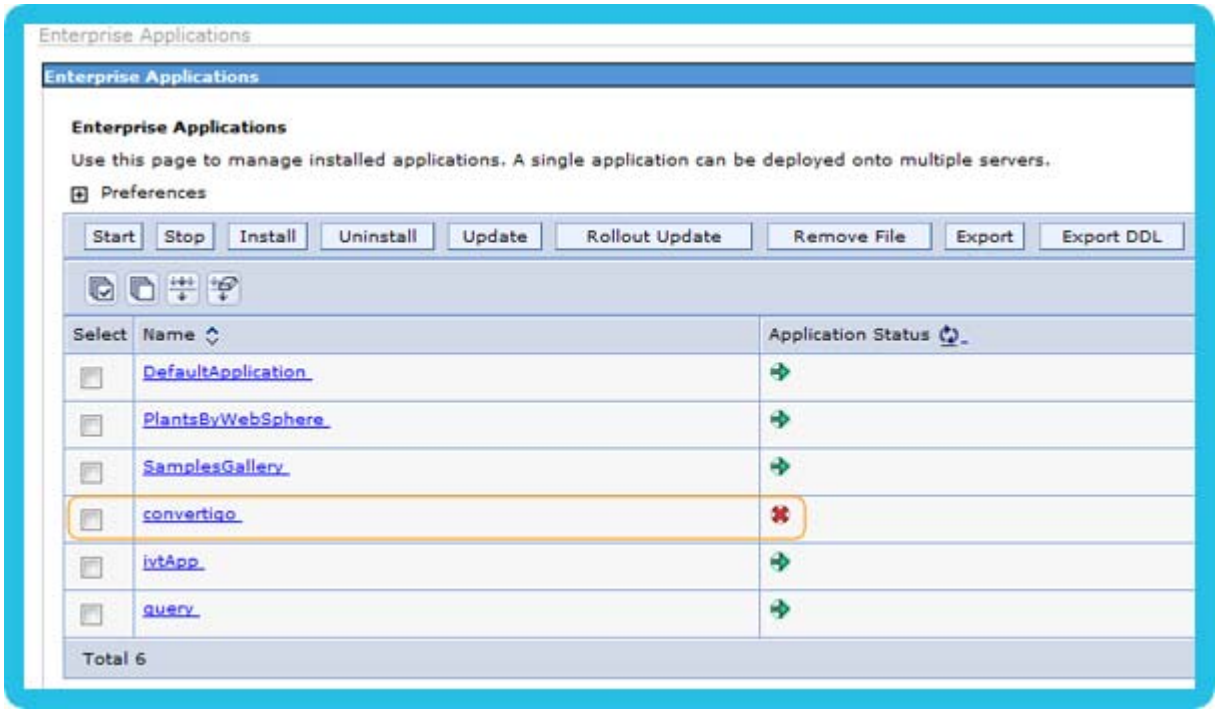


Figure 3 - 28: Convertigo application installed

11 Start the `convertigo` application by checking `convertigo` application checkbox and clicking on **Start**.

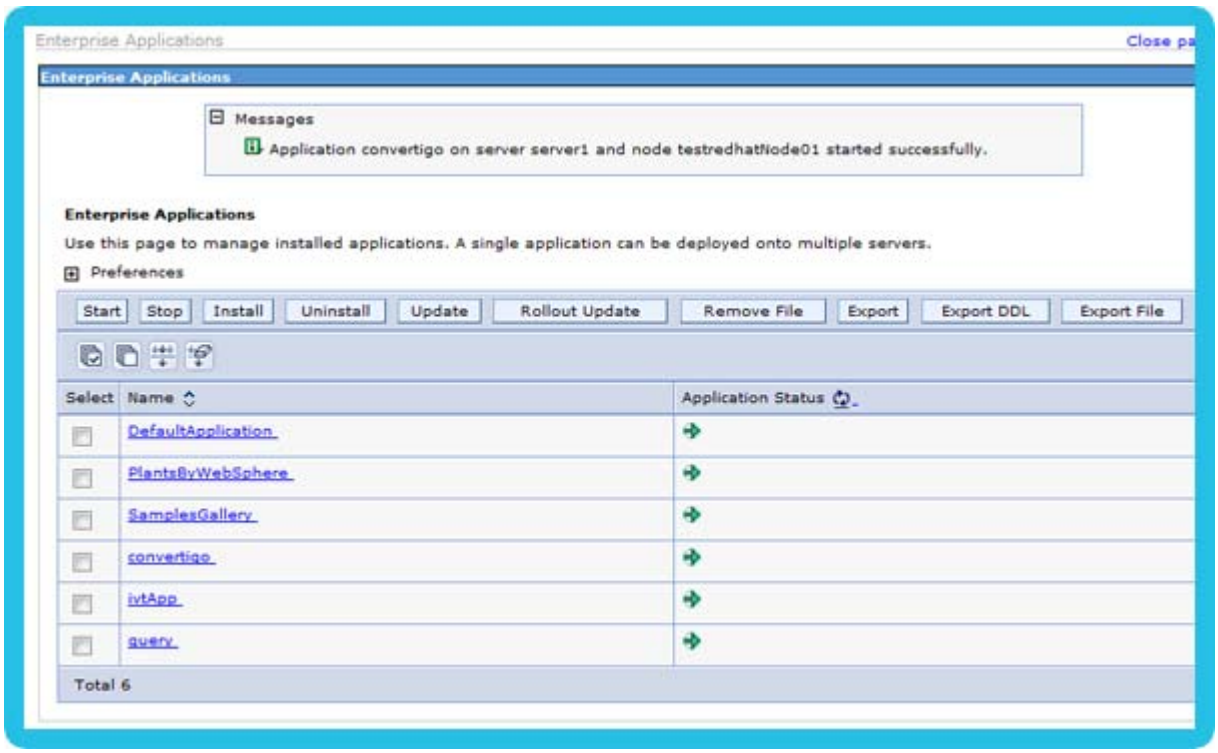


Figure 3 - 29: Convertigo application started

3.4.2 Parameterizing C-EMS with WebSphere 6

Parameterization of C-EMS in WebSphere 6 consists in:

- Specifying Java parameters and environment entries in WebSphere 6
- Changing the order of class loaders
- Modifying the "ibm-web-ext.xmi" file
- Using the Convertigo "compatibility mode"

SPECIFYING JAVA PARAMETERS AND ENVIRONMENT ENTRIES IN WEBSPHERE 6

WebSphere 6 server and environment need to be configured to correctly run Convertigo Server application.

To specify Java parameters and environment entries

1 In the left menu, expand ***Servers*** and click on ***Application servers*** submenu.

2 Select ***server1*** page (`server1` is the WebSphere server where C-EMS was installed).

The *server1 Configuration* page opens:

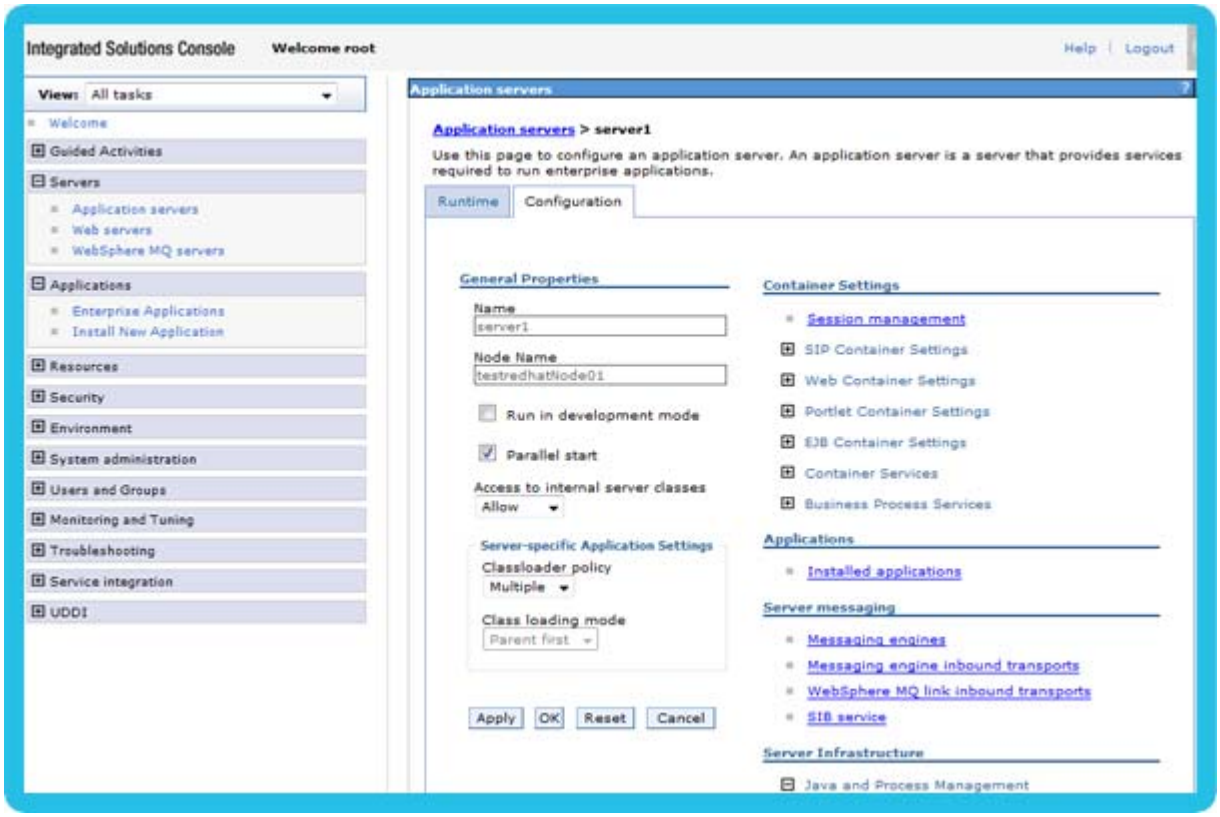


Figure 3 - 30: Server1 Configuration page on WebSphere 6

3 In *Server Infrastructure* section of the page, expand **Java and Process Management** and select **Process Definition**:

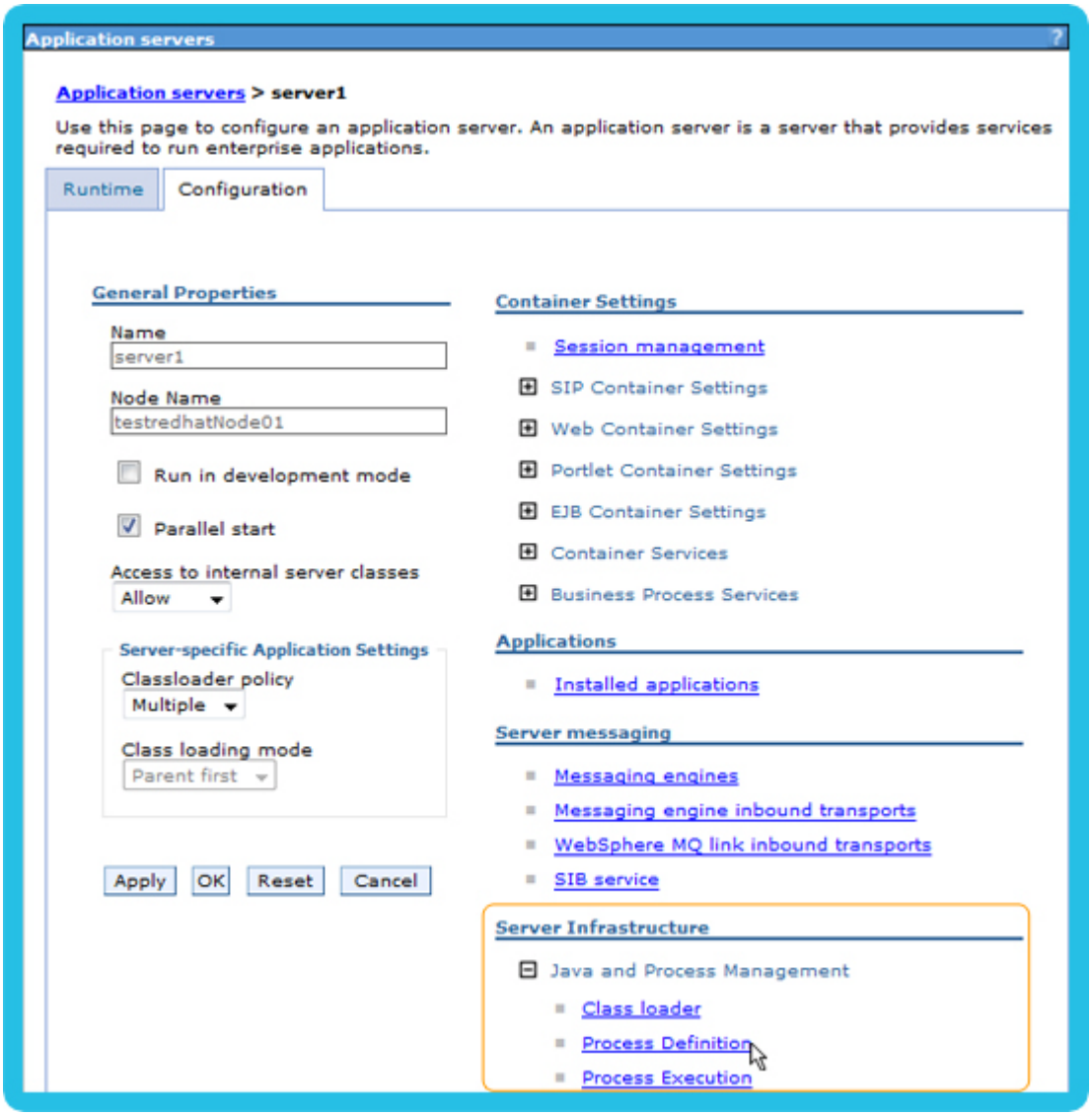


Figure 3 - 31: Accessing Process Definition configuration

The *Process Definition* page opens:

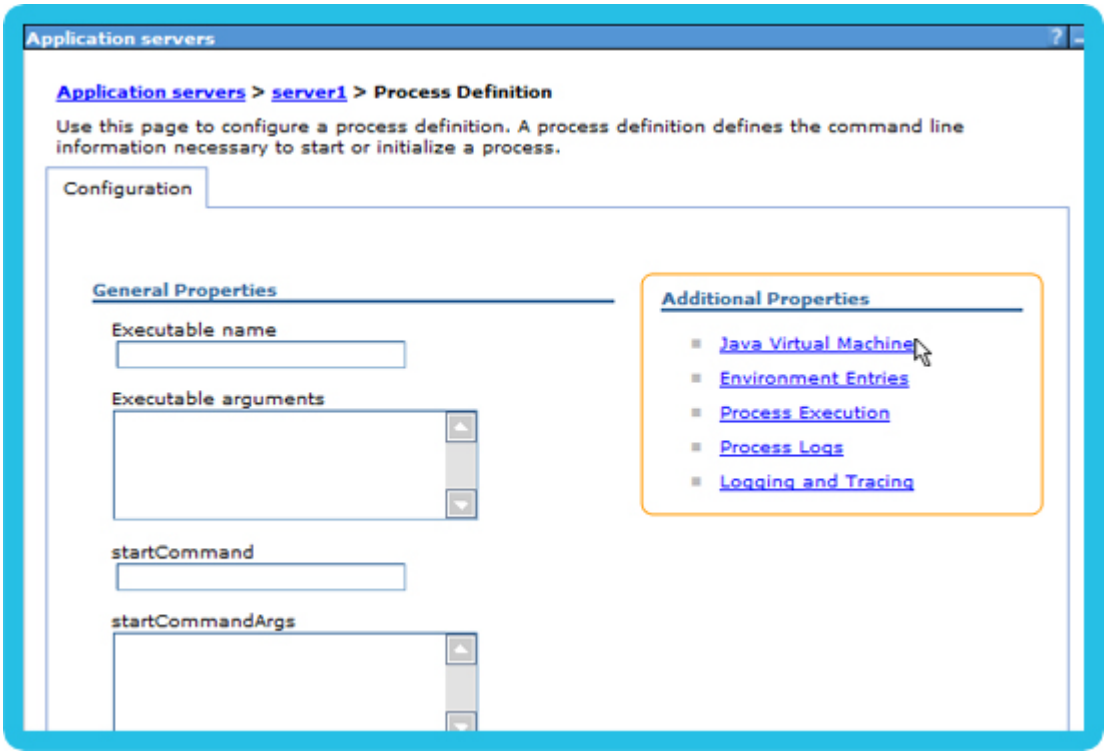


Figure 3 - 32: Server1 Process Definition configuration page on WebSphere 6

4 In *Additional Properties* section, click on **Java Virtual Machine**.

The *Java Virtual Machine Configuration* page opens:

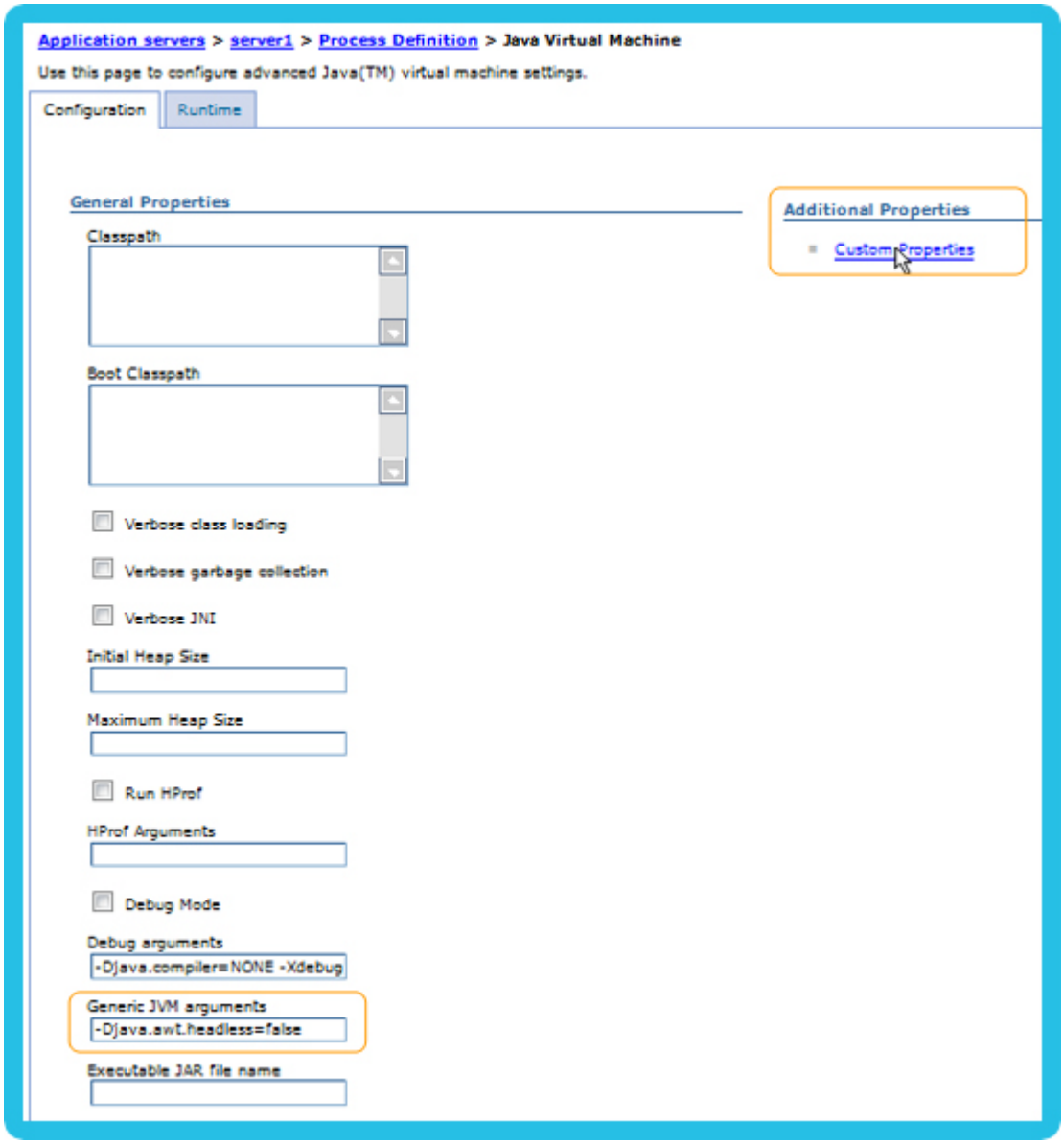


Figure 3 - 33: Updating Process Definition configuration for server1

5 Specify `-Djava.awt.headless=false` in **Generic JVM arguments** input field.

6 Then, in *Additional Properties* section on the right of the page, click on **Custom Properties**.

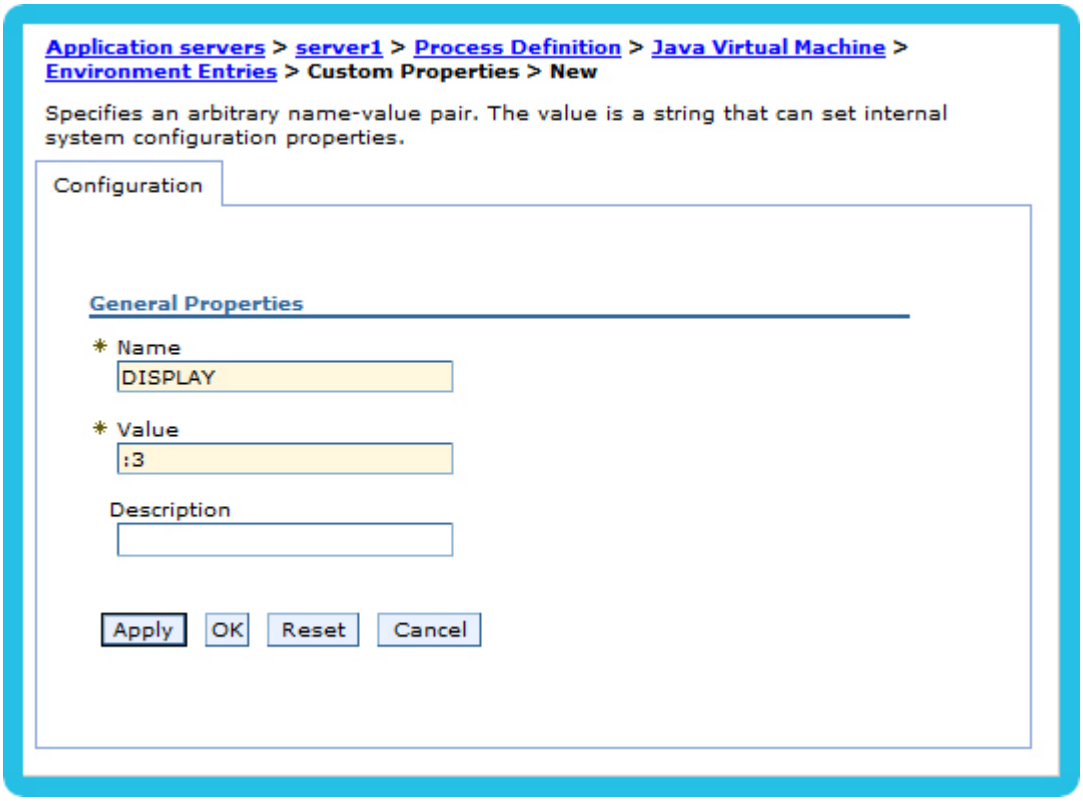


Figure 3 - 34: Creating a new entry in Environment Entries

7 Create a new *Environment Entry* with name `DISPLAY` and value `:3`.

8 Validate by clicking on the **OK** button.

CHANGING THE ORDER OF CLASS LOADERS

In WebSphere 6, order of class loaders has to be changed to correctly run Convertigo Server application.

To change the order of class loaders

1 In the left menu, expand ***Applications*** and click on ***Enterprise Applications*** submenu.

2 Then, click on the **convertigo** application, and **Manage Modules**.

The *convertigo Manage Modules* page opens:

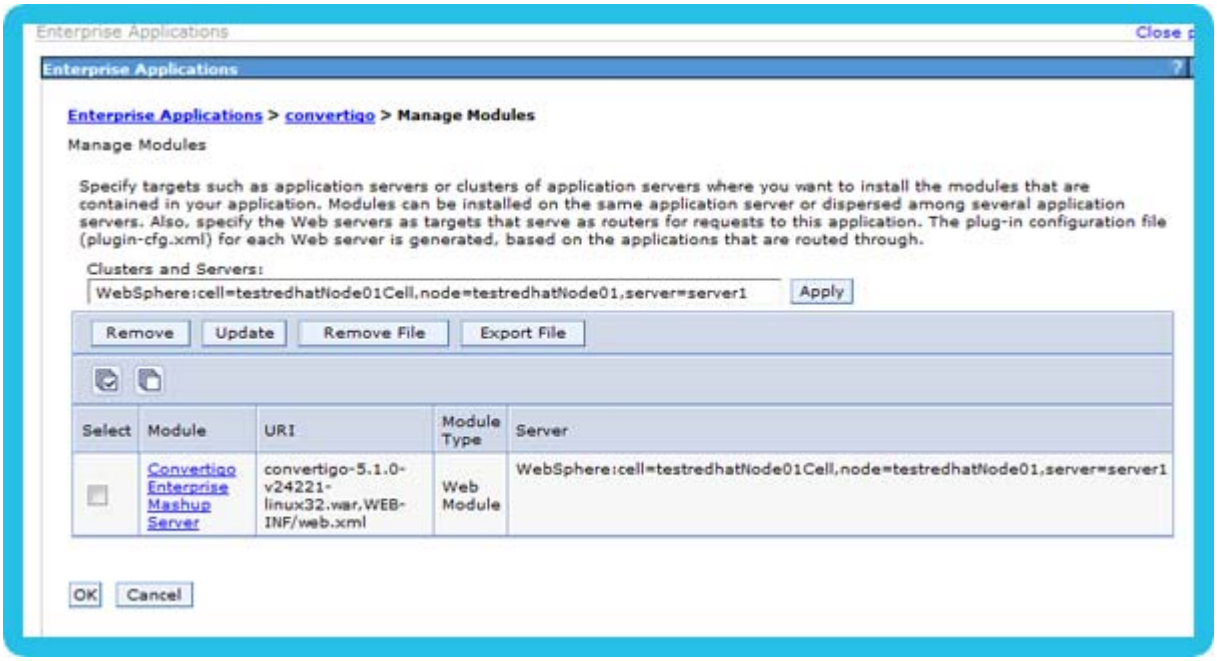


Figure 3 - 35: Convertigo Manage Modules page on WebSphere 6

3 Click on the **Convertigo Enterprise Mashup Server** module.

The *Configuration* page of the selected module opens:

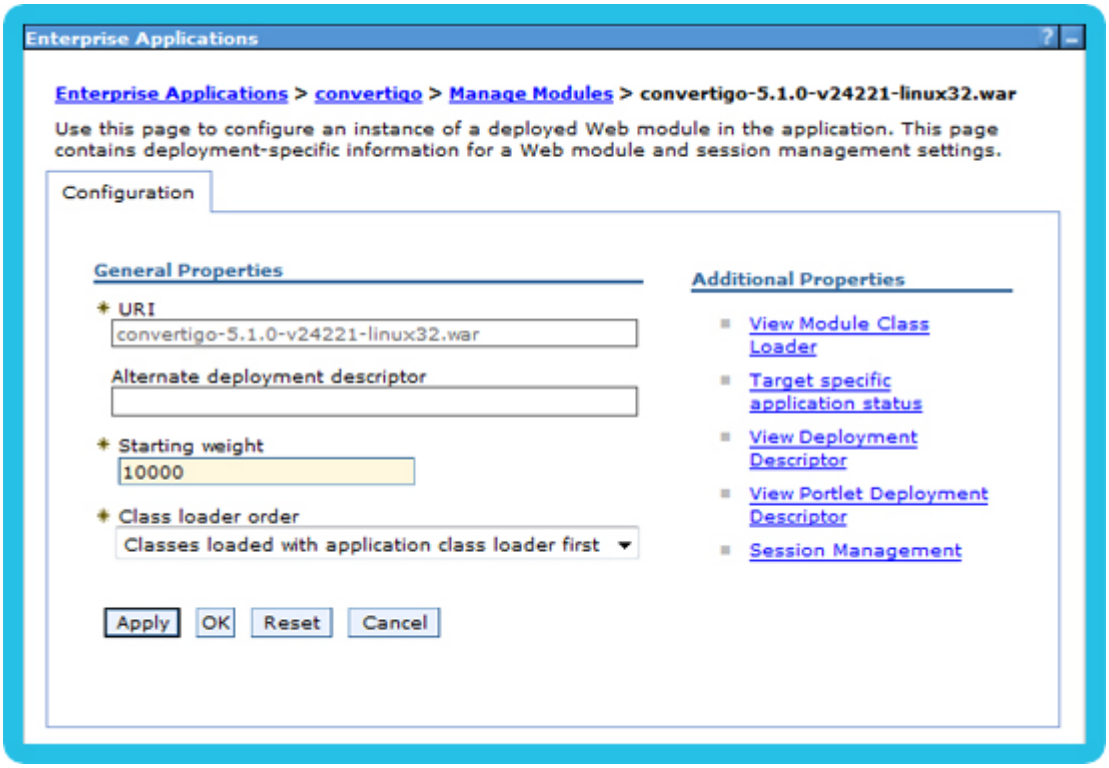


Figure 3 - 36: Updating class loader order for convertigo application

4 In the **Class loader order** combo box, select `Classes loaded with application class loader first`.

5 Validate by clicking on the **OK** button.

MODIFYING THE "IBM-WEB-EXT.XMI" FILE

In WebSphere 6 installation, the `xmi` configuration file has to be updated to correctly run Convertigo Server application.

To modify the "ibm-web-ext.xmi" file

1 Open the file `/opt/IBM/WebSphere/AppServer/profiles/AppSrv01/convertigoXX/convertigoXX.ear/convertigoXX.war/WEB-INF/ibm-web-ext.xmi` for edition:

```
<?xml version="1.0" encoding="UTF-8"?>

<com.ibm.ejs.models.base.extensions.webappext:WebAppExtension
xmi:version="2.0"          xmlns:xmi="http://www.omg.org/XMI"
xmlns:com.ibm.ejs.models.base.extensions.webappext="webappext
.xmi" xmi:id="WebAppExtension_1283428929512">

     <webApp href="WEB-INF/web.xml#ConvertigoServer"/>

       <jspAttributes     xmi:id="JSPAttribute_1283428929513"
       name="reloadEnabled" value="true"/>

       <jspAttributes     xmi:id="JSPAttribute_1283428929514"
       name="reloadInterval" value="10"/>

</com.ibm.ejs.models.base.extensions.webappext:WebAppExtension>
```

2 Add the following line:

```
<jspAttributes              xmi:id="JSPAttribute_1283428929515"
name="jdkSourceLevel" value="15"/>
```

```
<?xml version="1.0" encoding="UTF-8"?>

<com.ibm.ejs.models.base.extensions.webappext:WebAppExtension
xmi:version="2.0"          xmlns:xmi="http://www.omg.org/XMI"
xmlns:com.ibm.ejs.models.base.extensions.webappext="webappext
.xmi" xmi:id="WebAppExtension_1283428929512">

     <webApp href="WEB-INF/web.xml#ConvertigoServer"/>

       <jspAttributes     xmi:id="JSPAttribute_1283428929513"
       name="reloadEnabled" value="true"/>

       <jspAttributes     xmi:id="JSPAttribute_1283428929514"
       name="reloadInterval" value="10"/>

       <jspAttributes     xmi:id="JSPAttribute_1283428929515"
       name="jdkSourceLevel" value="15"/>

</com.ibm.ejs.models.base.extensions.webappext:WebAppExtension>
```

3 Save the updated file.

You might have to also modify the file: /opt/IBM/WebSphere/AppServer/profiles/AppSrv01/config/cells/localhostNode01Cell/applications/convertigoXX.ear/deployments/convertigoXX/convertigoXX.war/WEB-INF/ibm-web-ext.xmi

USING THE CONVERTIGO "COMPATIBILITY MODE"

The compatibility mode is required by C-EMS when running in WebSphere 6.

To activate the "compatibility mode" in Convertigo Server

1 Open the Convertigo Server *Administration Console* by calling the following URL in a Web browser:

```
http(s)://<WebSphereIPAddress>:<WebSpherePort>/convertigo/
```

- *WebSphereIPAddress* is the host name or IP address of your WebSphere server.
- *WebSpherePort* is the port number of your WebSphere server.

The Convertigo Server Administration Console opens on the authentication page:

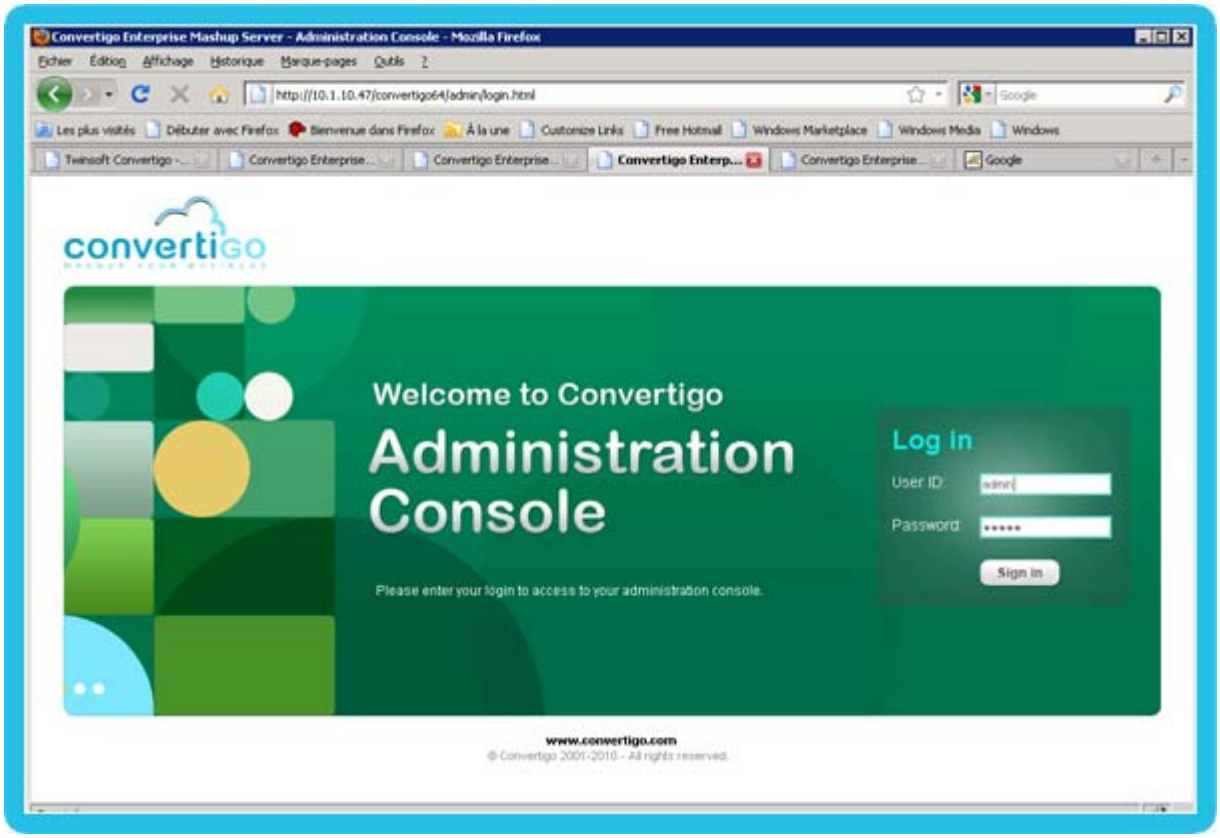


Figure 3 - 37: Convertigo Server Administration authentication page

2 Log in with the Convertigo Administration user ID and password (default username/password is: `admin`/`admin`) and validate by clicking on the **Sign in** button.

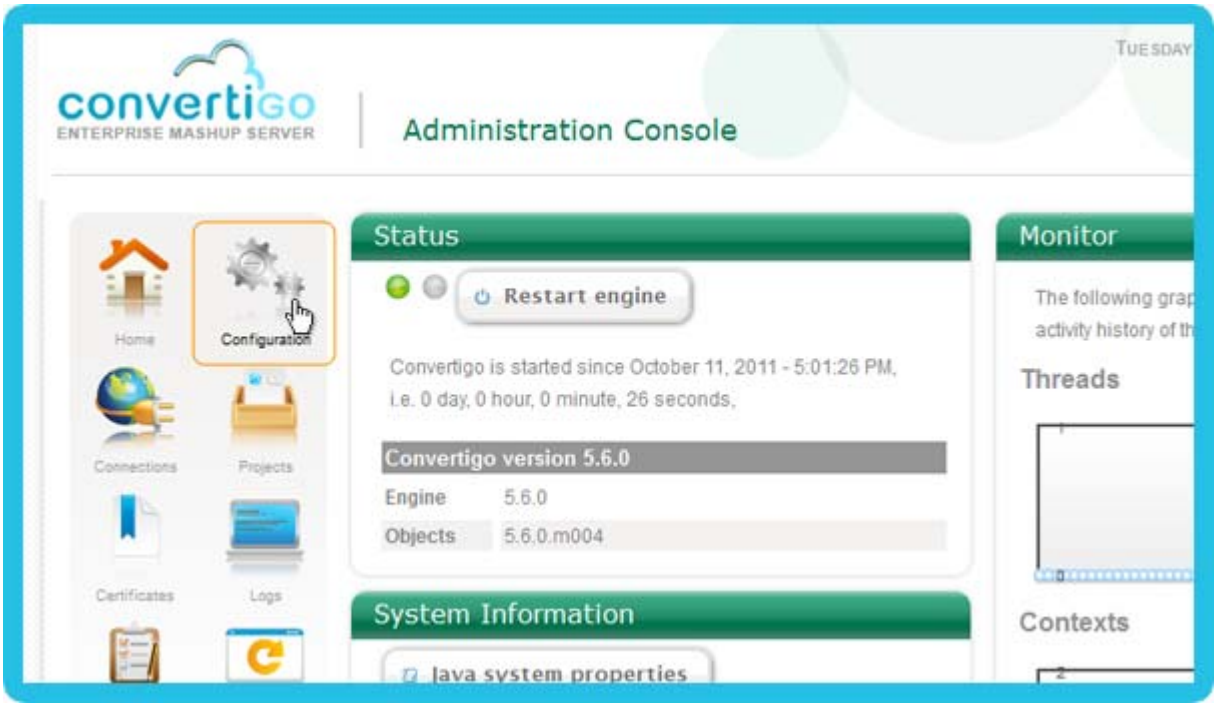


Figure 3 - 38: Clicking Configuration button

3 In the Administration Console left menu, click on **Configuration** button.

The *Configuration* page opens:

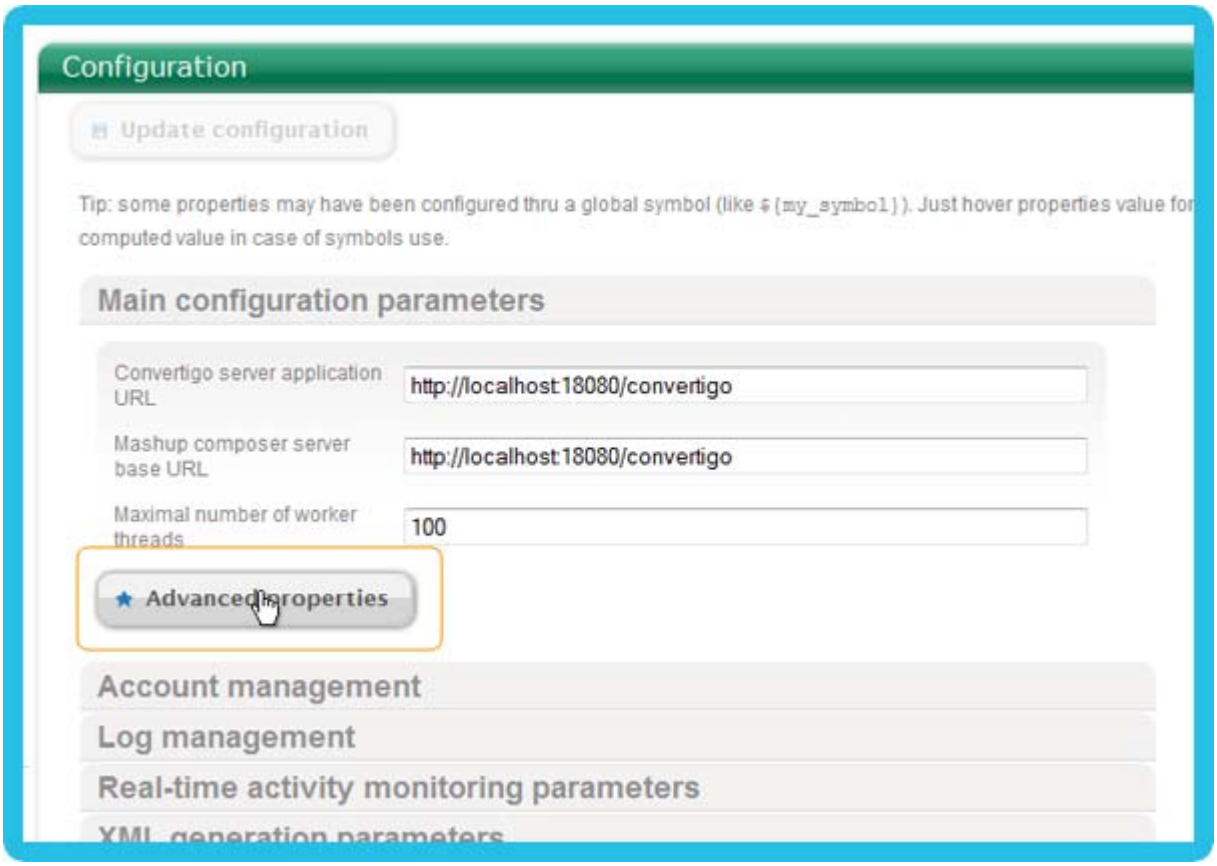


Figure 3 - 39: Configuration page in Convertigo Administration Console

4 In *Main configuration parameters* section, click on the **Advanced properties** button.

Advanced properties panel expands:

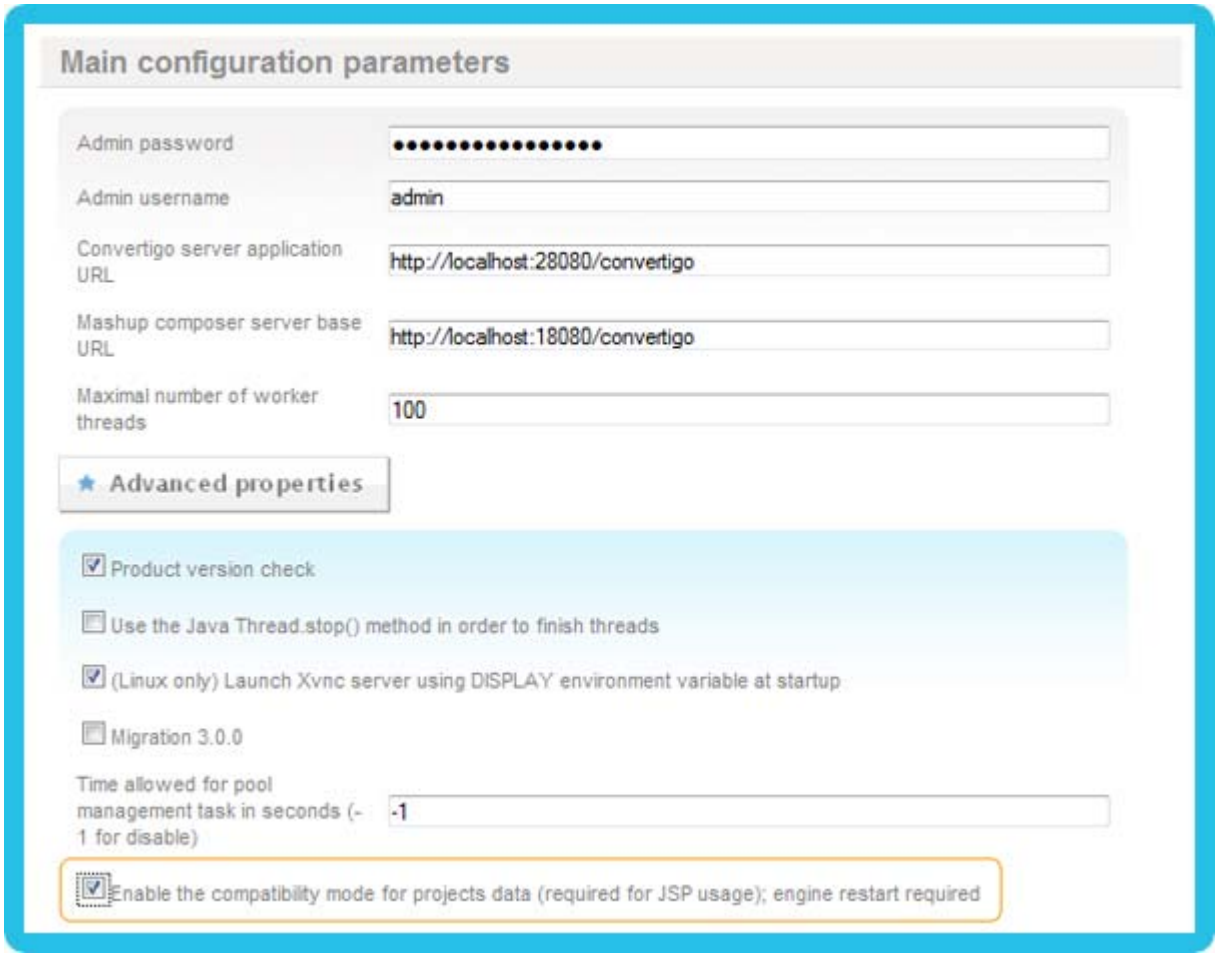


Figure 3 - 40: Advanced properties in Configuration page

5 Then, check the **Enable the compatibility mode for projects data** checkbox.

6 Scroll down to the bottom of the page and click on the **Update configuration** button:

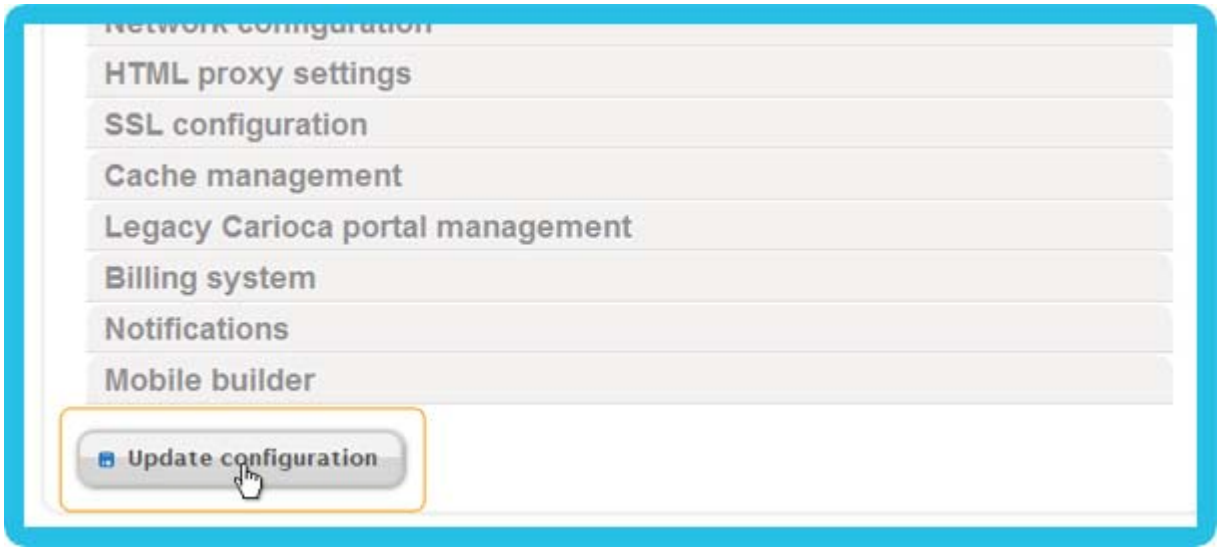


Figure 3 - 41: Validating updates in Configuration page

7 After these modifications, restart the Convertigo application in WebSphere.

3.4.3 Installing C-EMS on Linux/clustered WebSphere 7

Installing Convertigo Server is possible on clustered WebSphere version 7. This procedure completes the official IBM documentation to install an application.

PREREQUISITES

SERVER PREREQUISITES

The following table describes minimum server prerequisites for installing Convertigo Server:

Table 3 - 6: Server prerequisites

	RedHat/WebSphere
Version	• RedHat starting from version 5.2 • WebSphere starting from version 7
CPU	Dual Core
RAM	4 Gb
Disk space	10 Gb
Packages	• Package `xulrunner-1.9.0.19-1.el5_5` and all dependencies • Package `xorg-x11-fonts-Type1-7.1-2.1.el5`

Specified packages are necessary for using web connectors.

INSTALLATION REQUIREMENTS

- The C-EMS `.war` file: convertigo-*X.Y.Z*-v*12345*-linux32.war (for 32 bits version) or convertigo-*X.Y.Z*-v*12345*-linux64.war (for 64 bits version).
- You must know how to access WebSphere console. For example: `https://websphere_server:9043/ibm/console`
- You must know the user ID and password to connect to the WebSphere console.
- Convertigo workspace will be created in *home* directory. If the account used for installation doesn't have a *home* directory, add an *Environment Entry* named `HOME` with a value pointing on a directory where the Convertigo workspace will be created.

The installation is made on a topology with a `dmgr` (deployment manager) and four nodes. Each node contains ten members. See below a part of the node and members configuration:

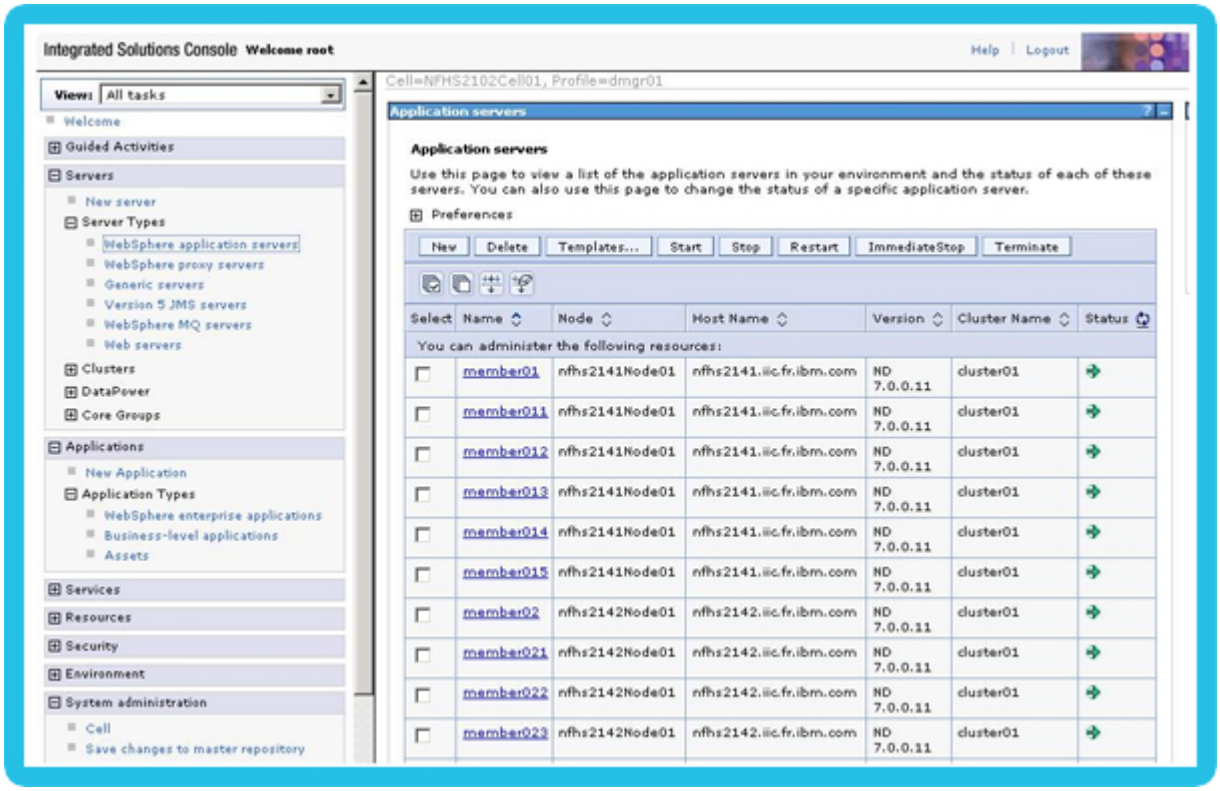


Figure 3 - 42: Node and members configuration in WebSphere 7

INSTALLATION PROCEDURE

The following procedure explains step by step how to install C-EMS on RedHat/WebSphere 7.

To install Convertigo Server on WebSphere 7

1 Connect to the WebSphere 7 console using the appropriate URL:

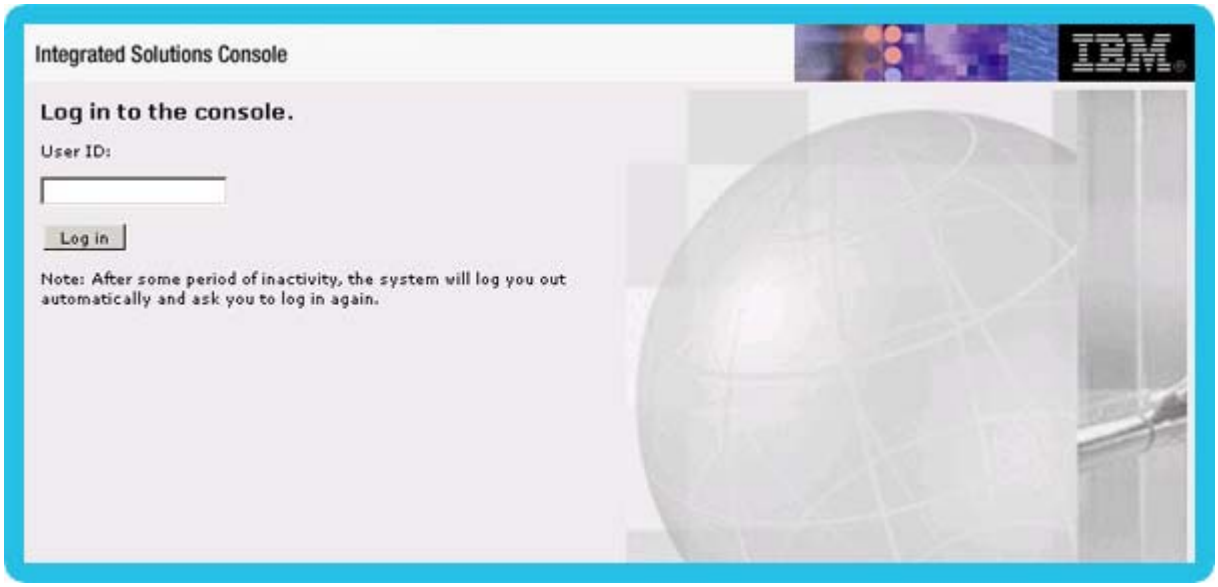


Figure 3 - 43: Connecting to WebSphere 7 console

2 Set administration credentials and validate by clicking he **Log in** button.

3 In the left menu, expand ***Applications*** and click on ***New Application*** submenu.

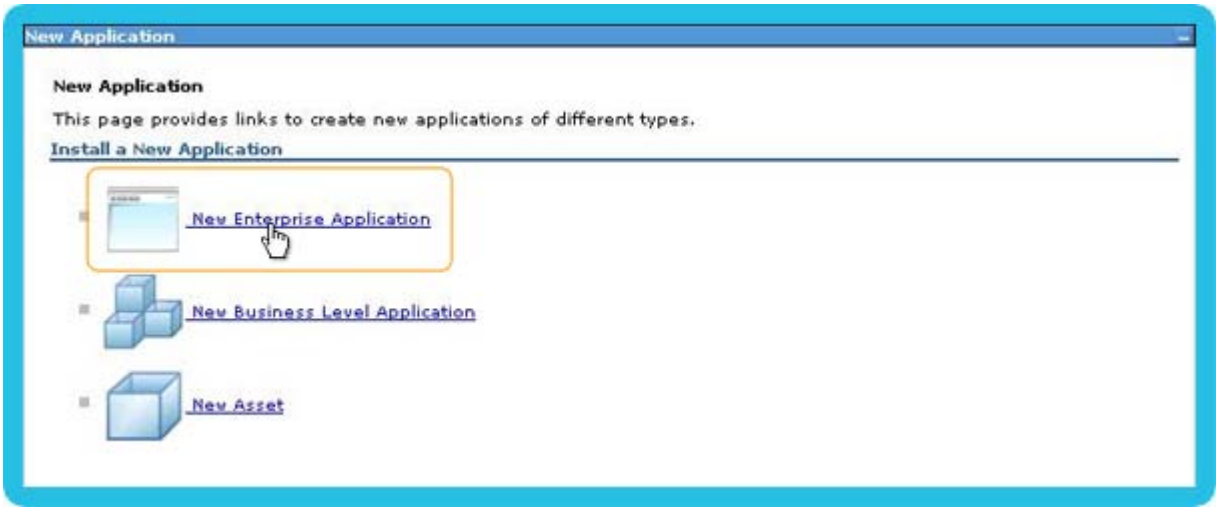


Figure 3 - 44: Installing new application in WebSphere 7

4 Click on **New Enterprise Application**.

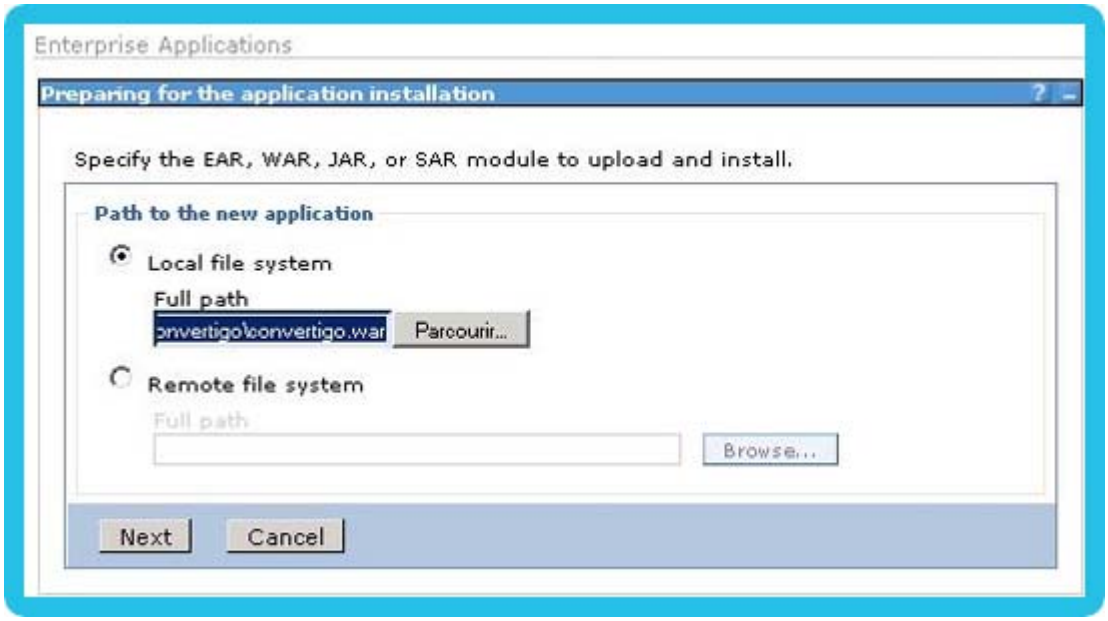


Figure 3 - 45: Installing new application in WebSphere 7

5 Set the full path of the `.war` file (or click on the **Browse** button to access to the file) and click on **Next**.

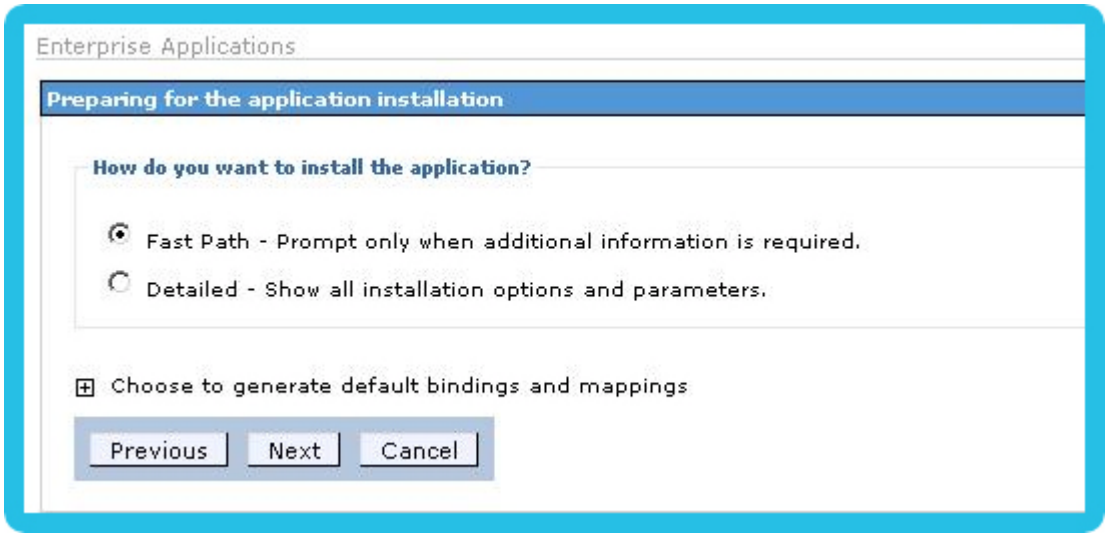


Figure 3 - 46: Configuration of installation in WebSphere 7

6 Click on **Next**.

You are redirected to the application's installation page.

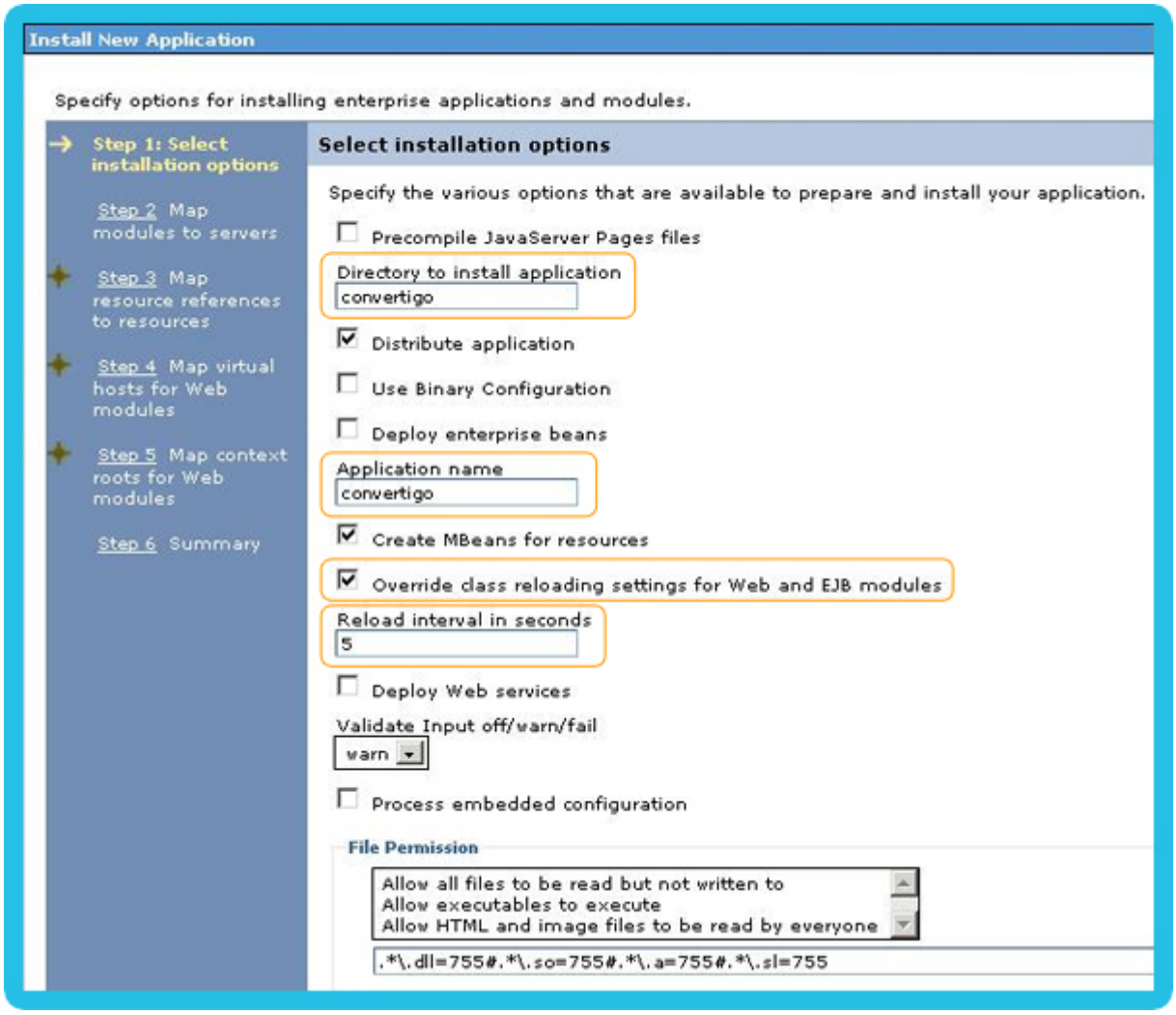


Figure 3 - 47: Convertigo installation options in WebSphere 7

7 In the *installation options* page, specify:

- specify the installation directory in **Directory to install application** input field (for example, `convertigo`),
- specify the application name in **Application name** input field (for example, `convertigo`),
- check the **Override class reloading settings for Web and EJB modules** checkbox,
- and set class reloading interval in **Reload interval in seconds** input field (for example, 5 seconds).

8 Then, click on **Next**.

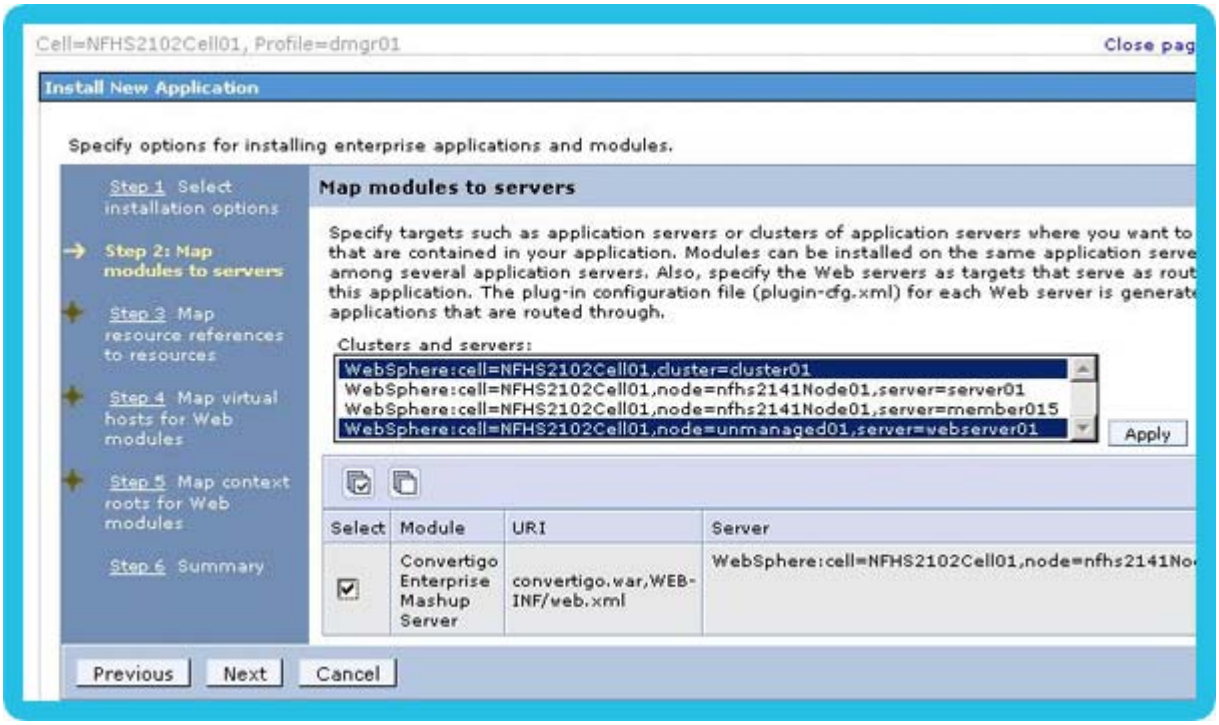


Figure 3 - 48: Convertigo installation Map modules to servers page in WebSphere 7

9 In *Map modules to servers* page, select **Convertigo Enterprise Mashup Server** module by checking its checkbox in the table.

10 In **Clusters and servers** list, select the cluster AND the load balancer, and click on the **Apply** button.

11 Then, click on **Next** until the *Map context roots for Web modules* page.

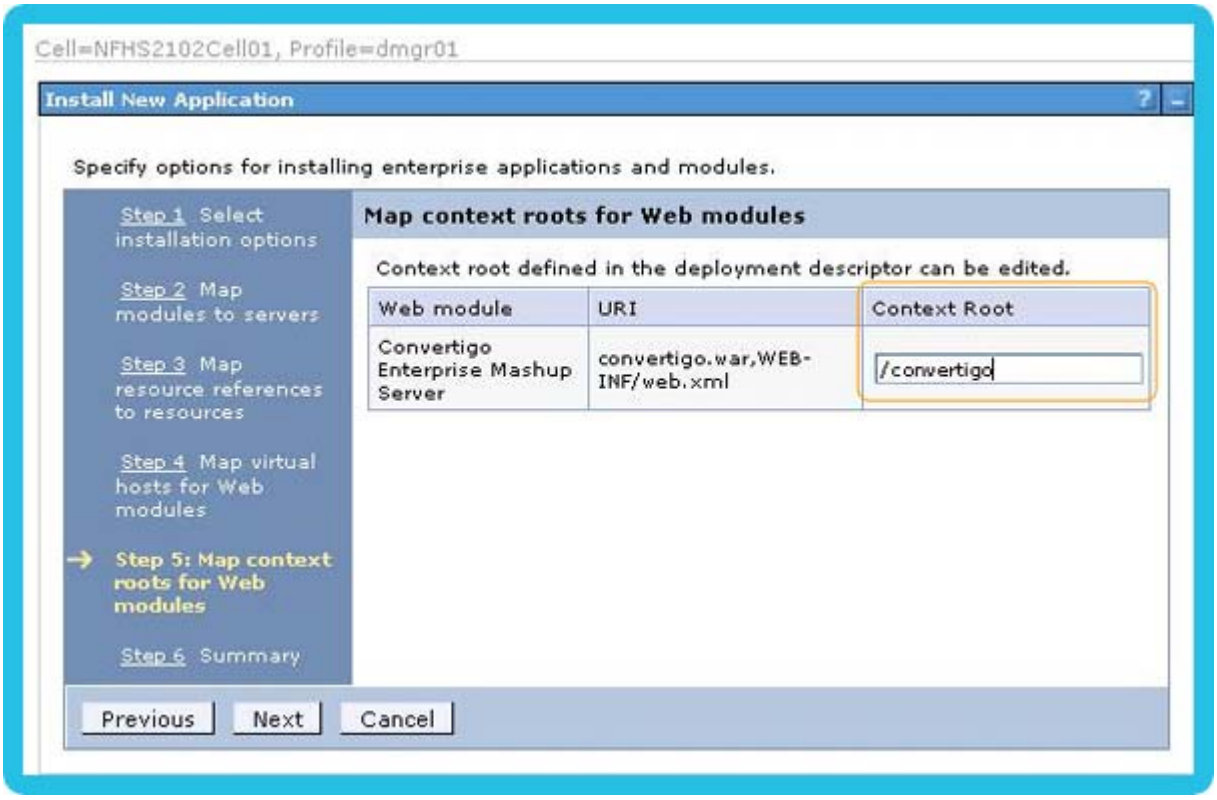


Figure 3 - 49: Convertigo installation Map context roots for Web modules page

12 Specify a **Context Root** (for example `/convertigo`) and click on **Next**.

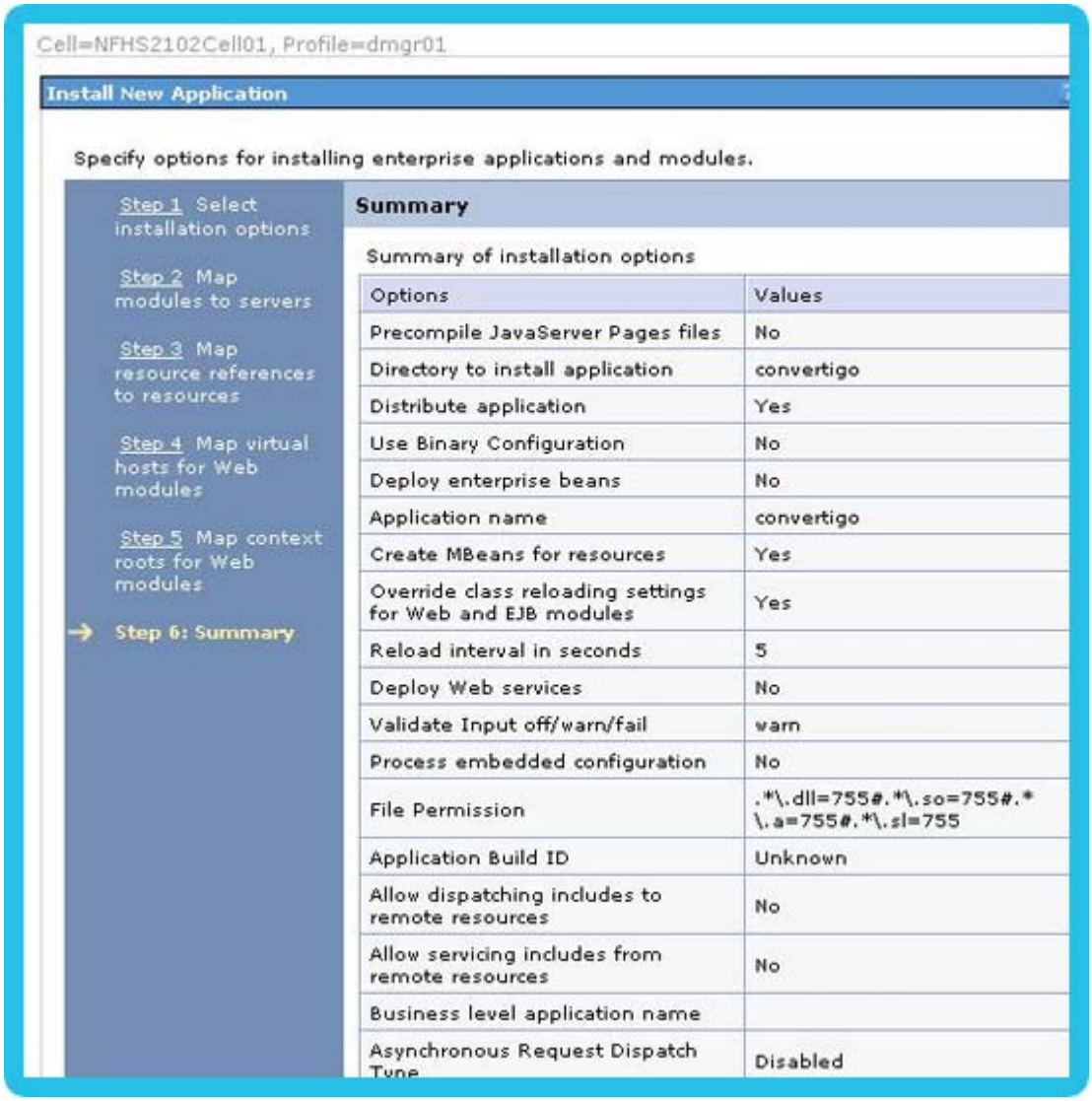


Figure 3 - 50: Convertigo installation Summary page

13 In the *Summary* page, click on **Finish**.

14 The installation process can take a few minutes:

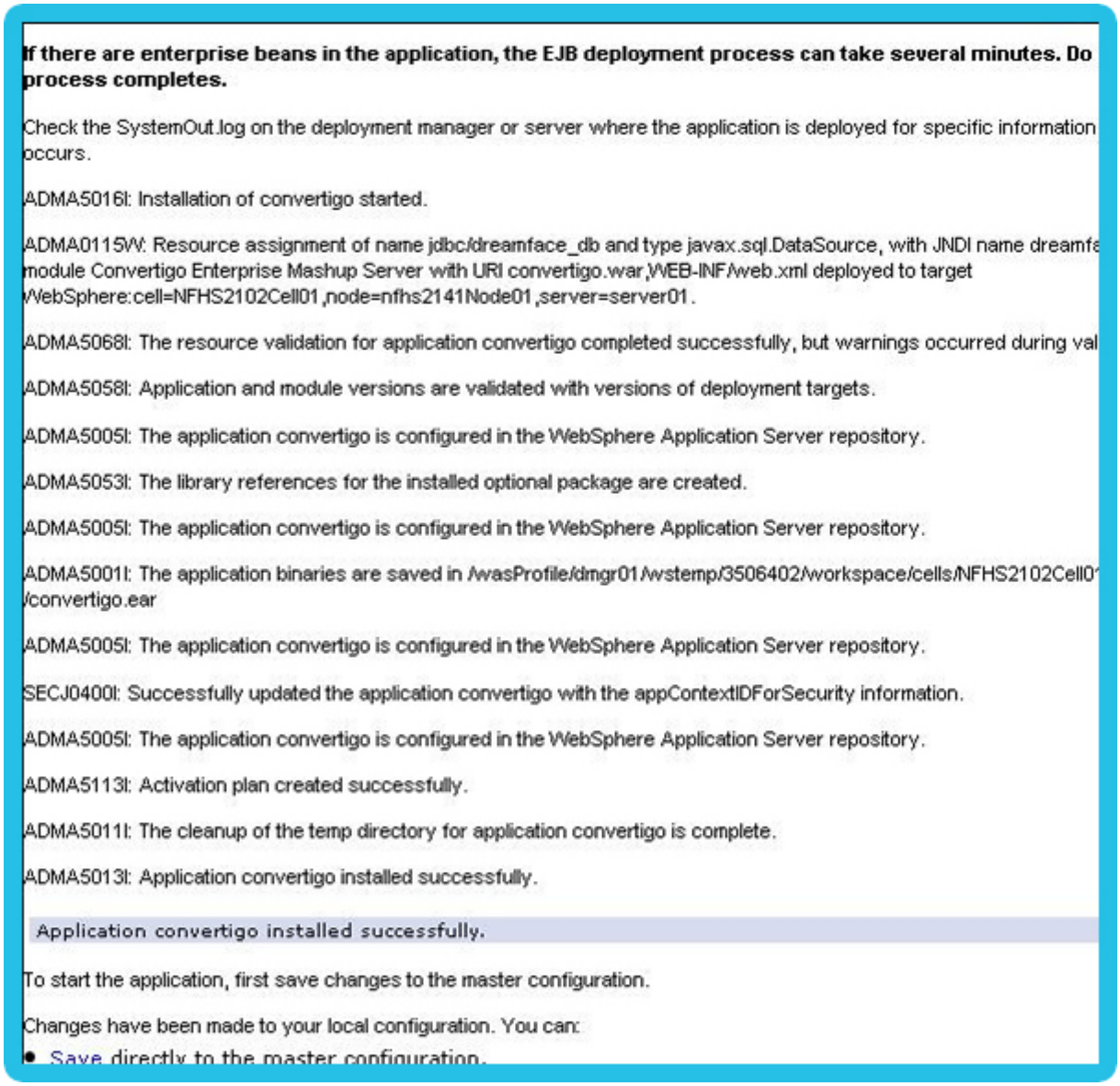


Figure 3 - 51: Convertigo installation page

15 Then, click on **Save directly to the master configuration**.

This action triggers the nodes synchronization through the cluster:

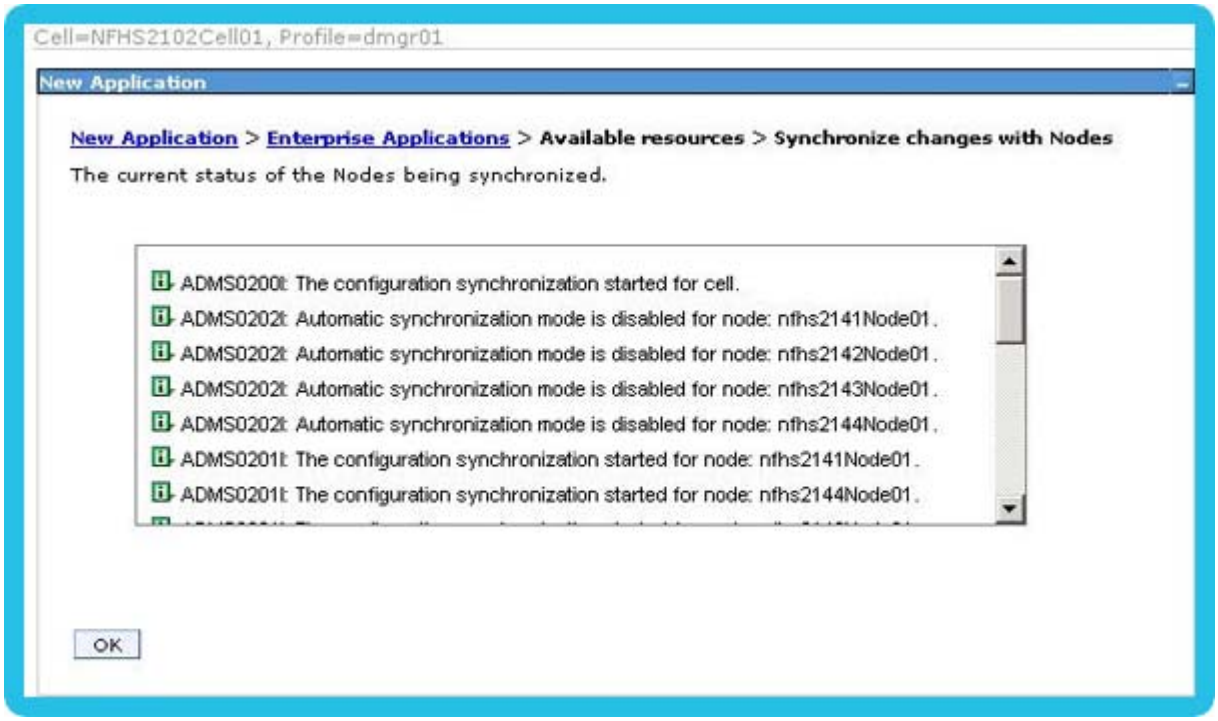


Figure 3 - 52: Nodes synchronization through the cluster

The `convertigo` application should now be visible in the *Enterprise Applications* page:

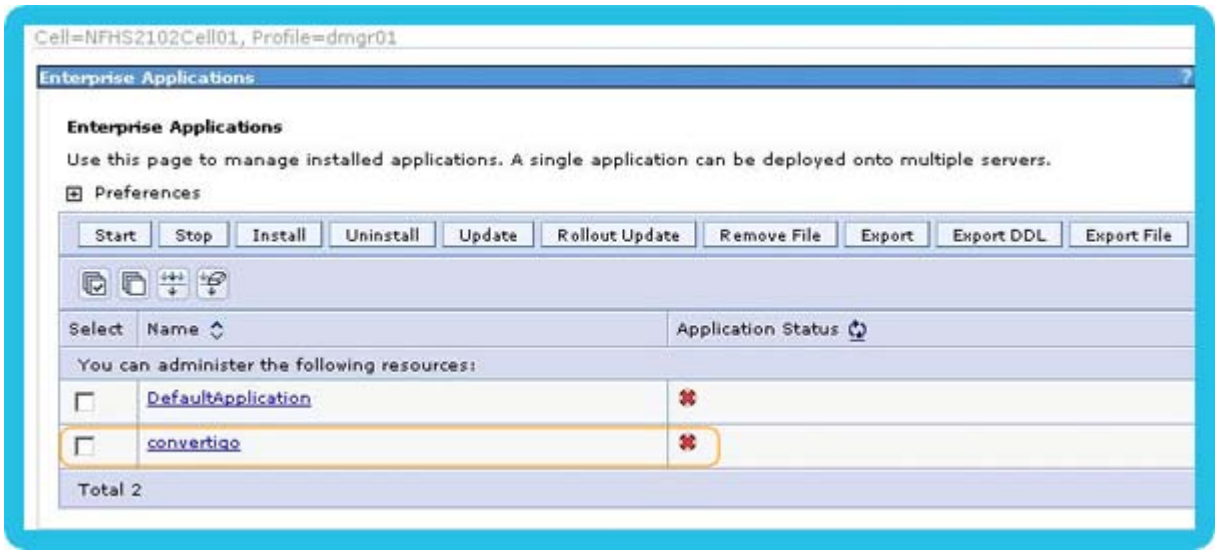


Figure 3 - 53: Convertigo application installed

16 In the left menu, expand ***Servers > Server Types*** and click on ***Web servers*** submenu.

The *Web servers* page opens.

17 In this page, select the web server by checking its checkbox and click on the **Generate Plug-in** button.

18 Then, click on the **Propatate Plug-in** button:

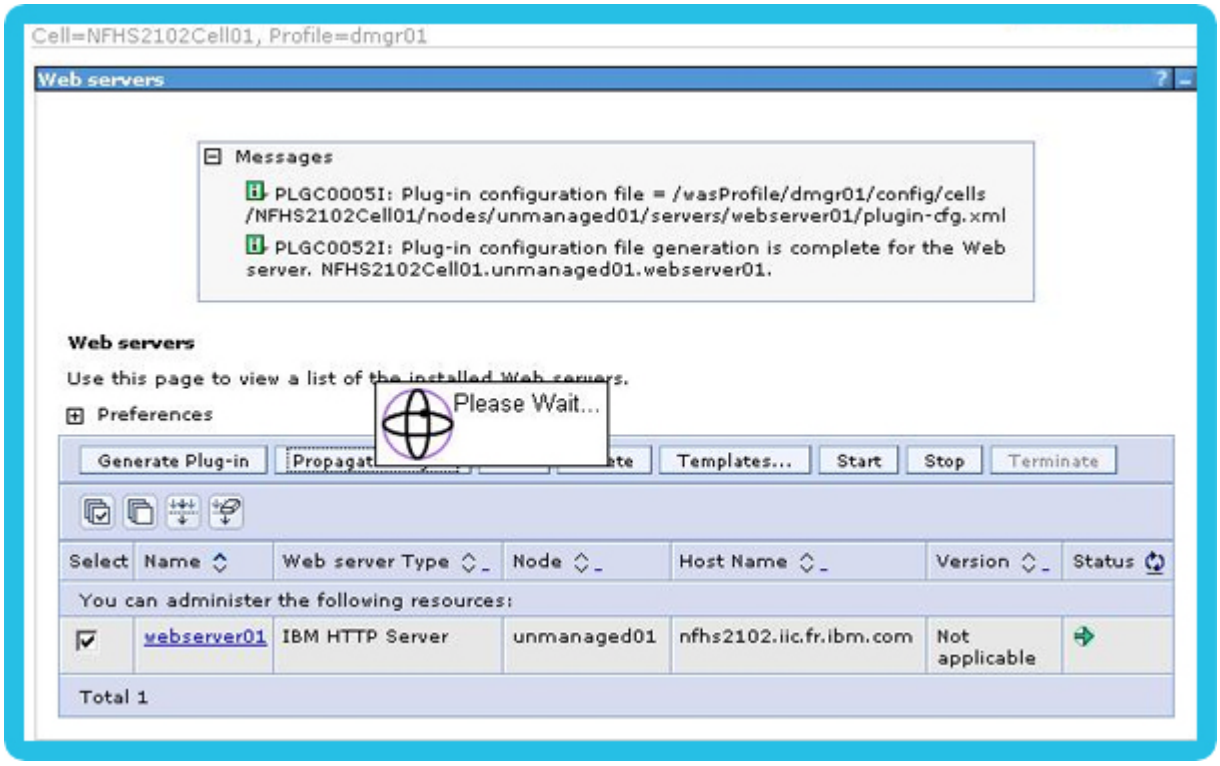


Figure 3 - 54: Propagating Plug-in in Web servers page

19 Back to *Enterprise Applications* page, the `convertigo` application can now be started by selecting the application and clicking on the **Start** button

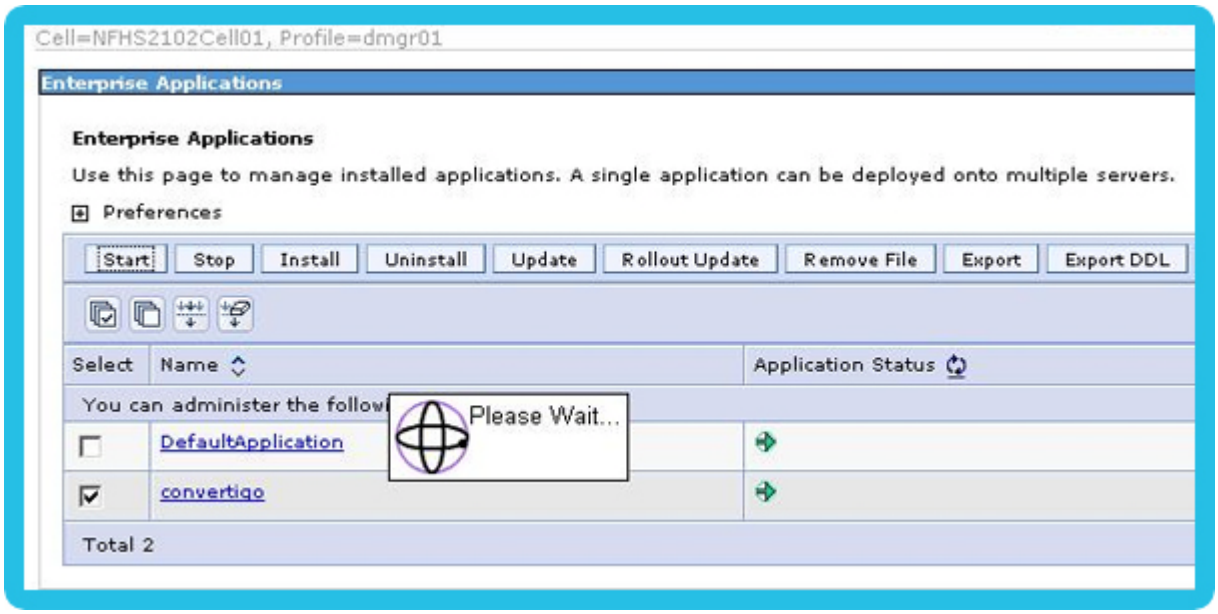


Figure 3 - 55: Starting convertigo application

20 You have to check in *Messages* all the members where C-EMS has been deployed.

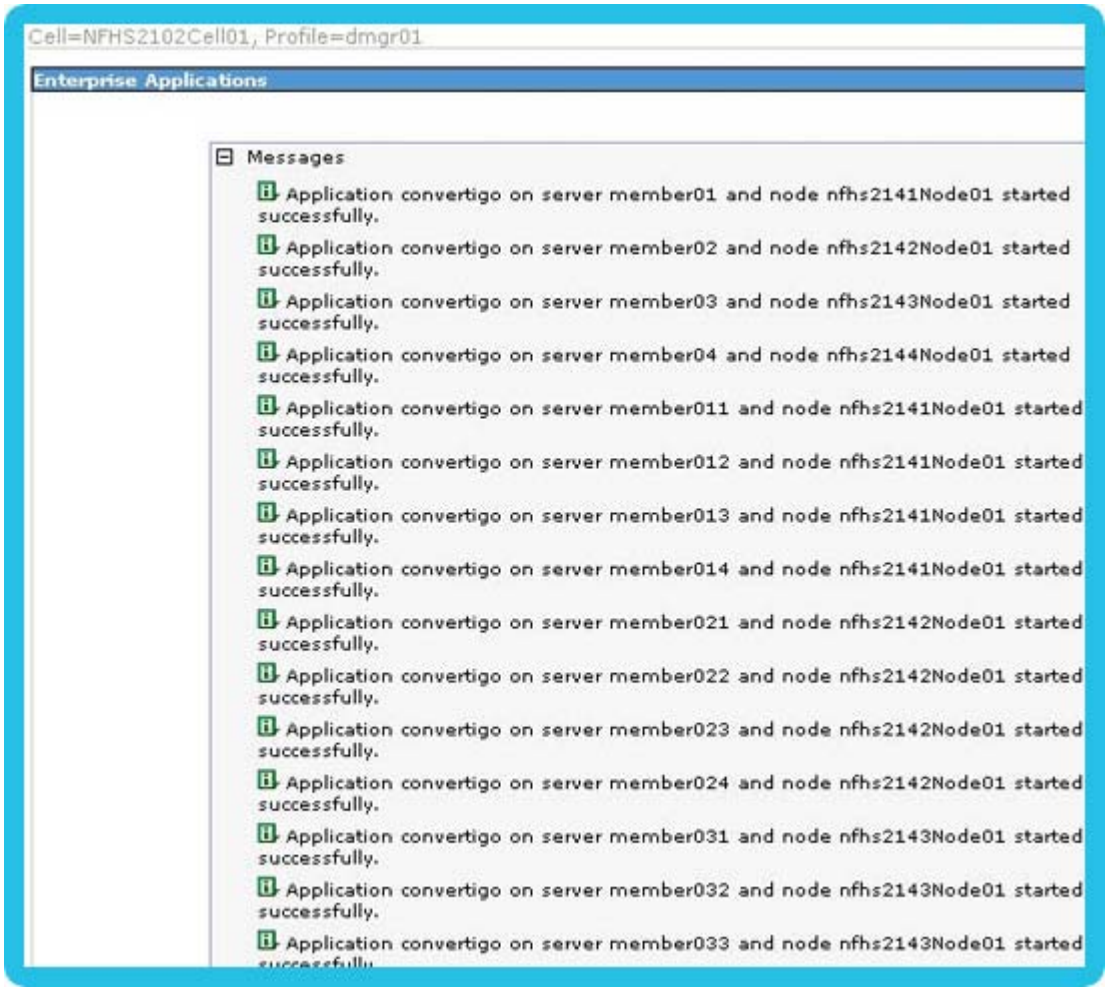


Figure 3 - 56: Starting convertigo application messages to check

3.4.4 Parameterizing C-EMS with WebSphere 7

Parameterization of C-EMS in WebSphere 7 consists in:

- Specifying Java parameters and environment entries in WebSphere 7

SPECIFYING JAVA PARAMETERS AND ENVIRONMENT ENTRIES IN WEBSPHERE 7

WebSphere 7 server and environment need to be configured to correctly run Convertigo Server application.

To specify Java parameters and environment entries in WebSphere 7

1 In the left menu, expand ***Servers > Server Types*** and click on ***WebSphere application servers*** submenu.

The *Application servers* page opens:

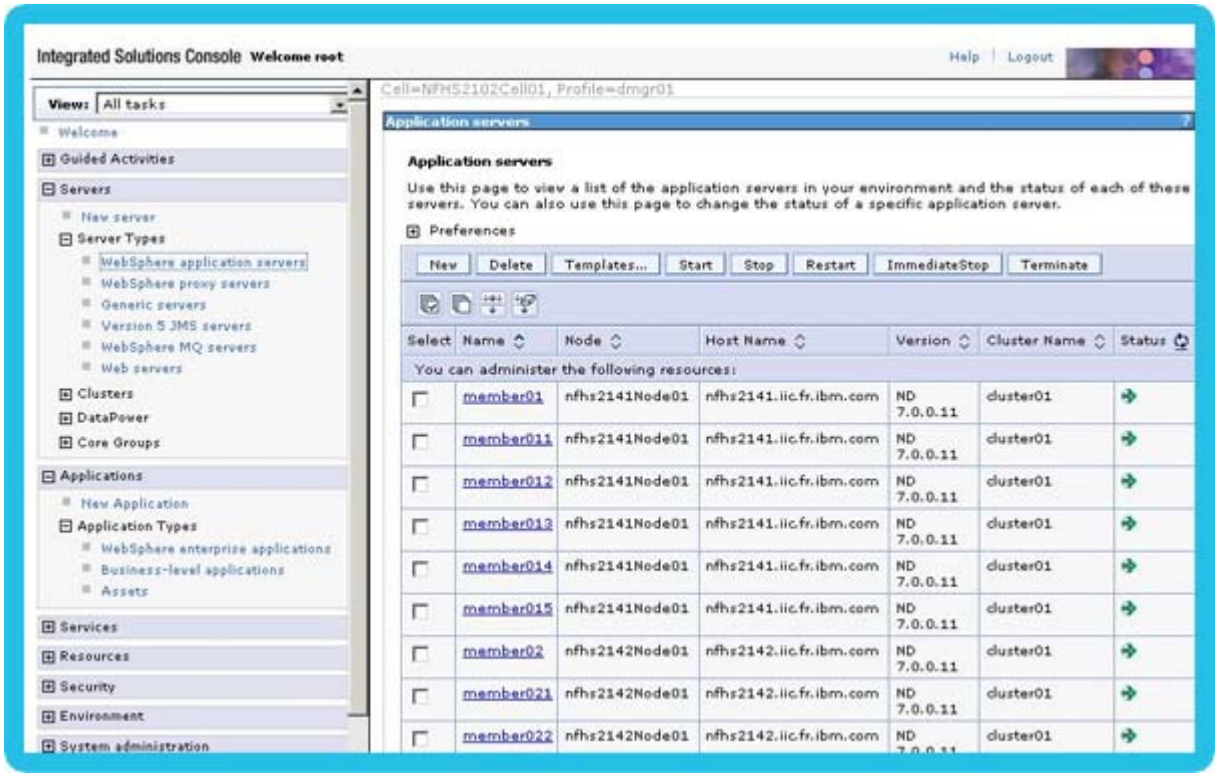


Figure 3 - 57: Application servers page on WebSphere 7

2 Click on the member you want to configure.

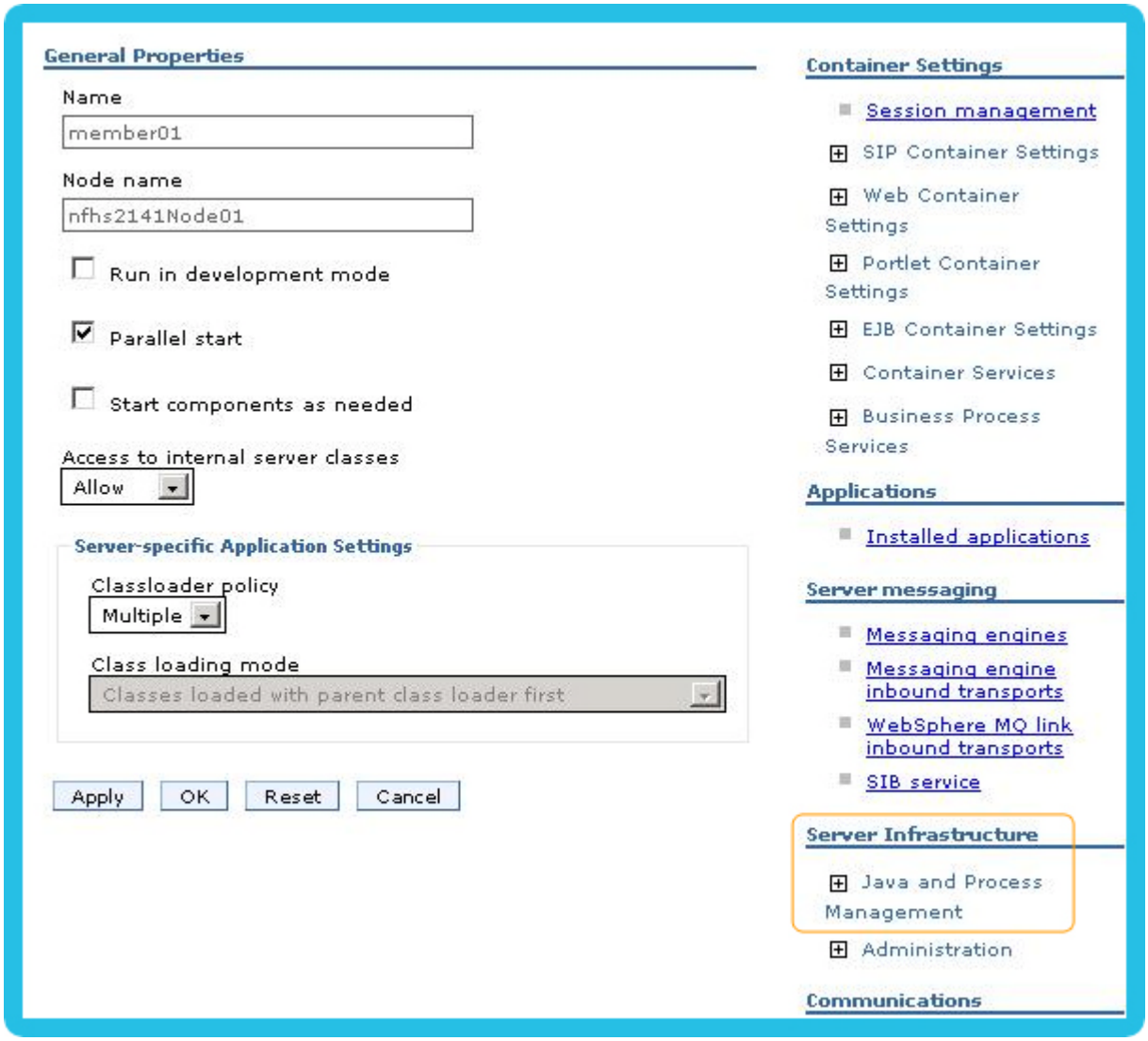


Figure 3 - 58: Configuration of memberXX on WebSphere 7

3 In *Server infrastucture* section of the *memberXX* configuration page, expand **Java and Process management** and click on **Process definition**.

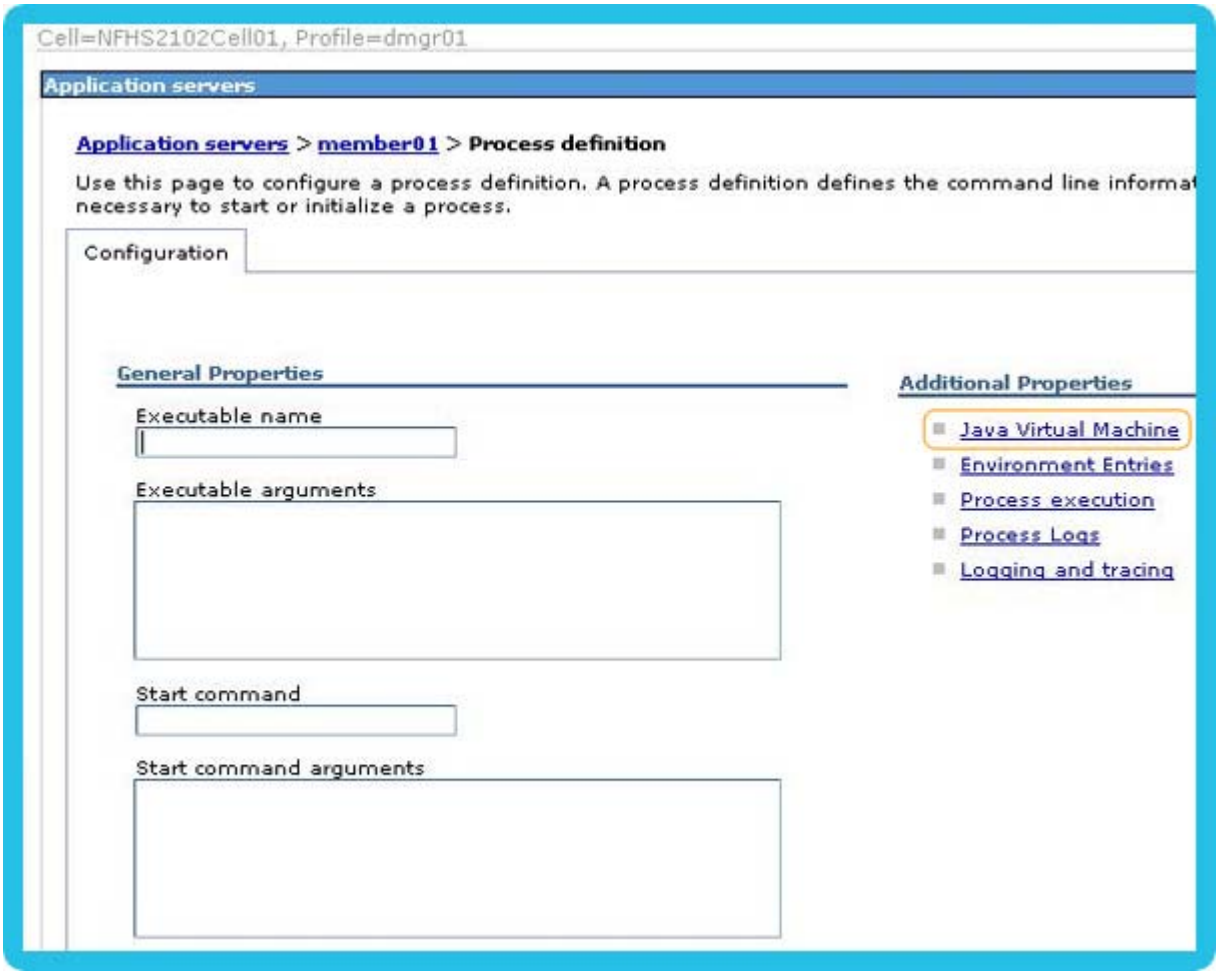


Figure 3 - 59: memberXX Process definition on WebSphere 7

4 In *Additional properties* section of the page, click on **Java Virtual Machine** link.

5 In *Java Virtual Machine* page, update **Generic JVM arguments** input field with:

```
-Djava.awt.headless=false
```

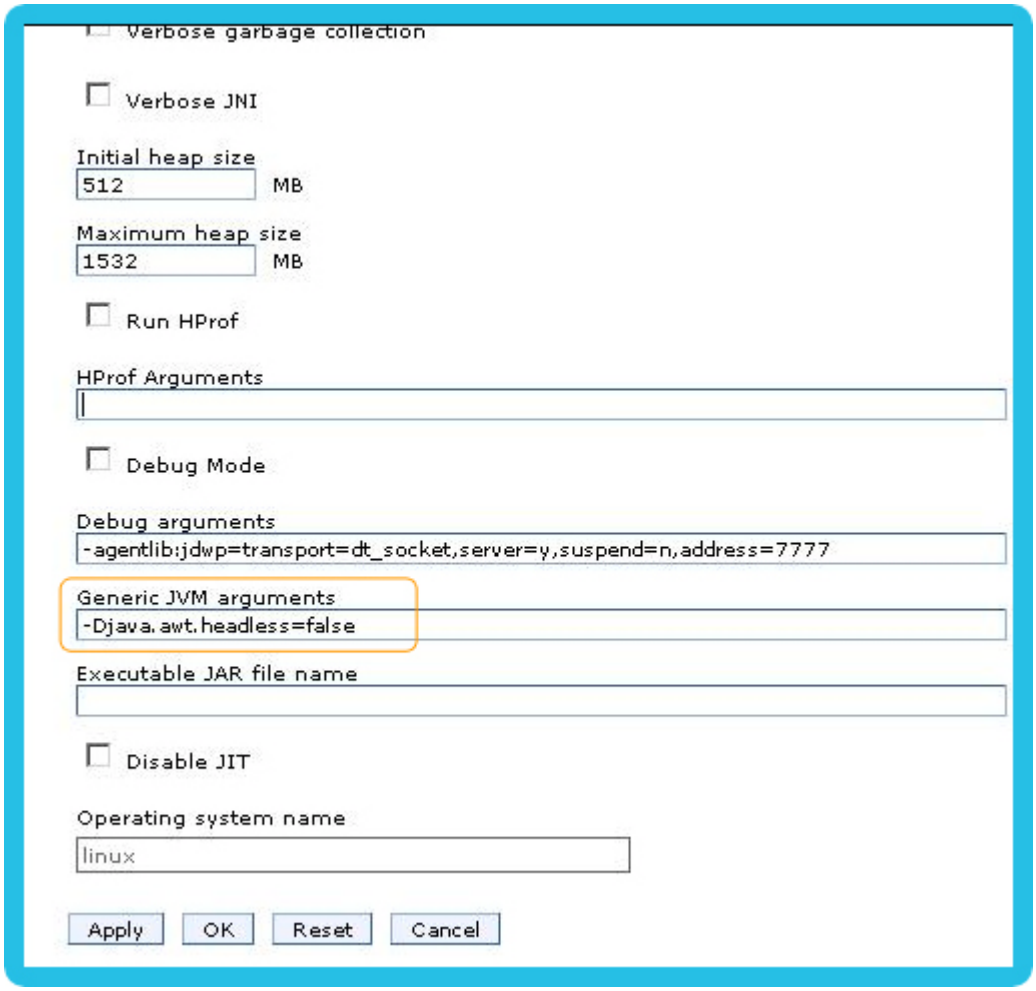


Figure 3 - 60: memberXX Java Virtual Machine settings

6 To change the Convertigo default workspace directory, you can add:

```
-Dconvertigo.cems.user_workspace_path=<path of your workspace>
```

For more information on Convertigo workspace and projects workspace, see Appendix “Convertigo workspace” on page A - 2.

7 Validate by clicking on the **OK** button.

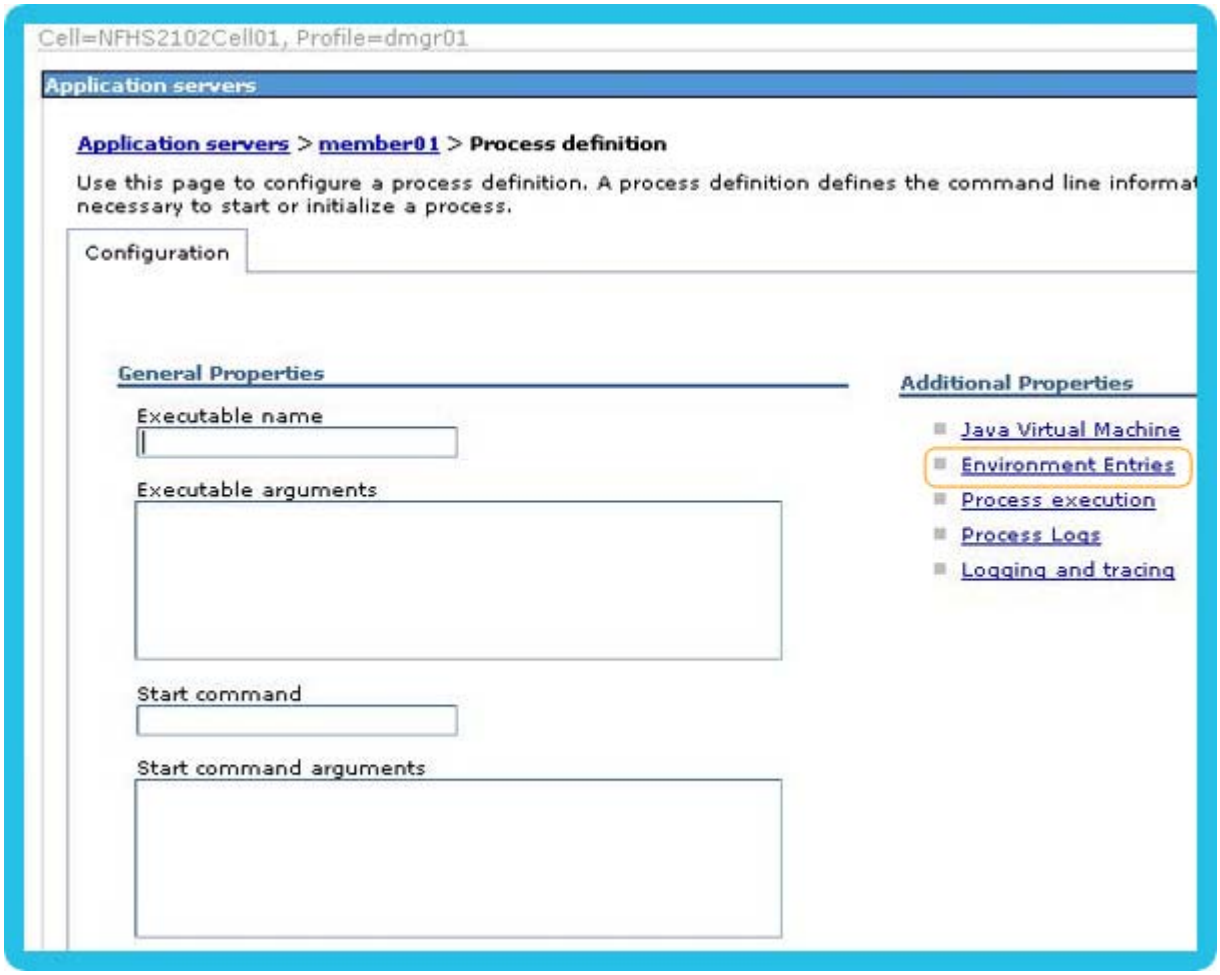


Figure 3 - 61: memberXX Process definition on WebSphere 7

8 In *Additional properties* section of the page, click then on **Environment entries** link.

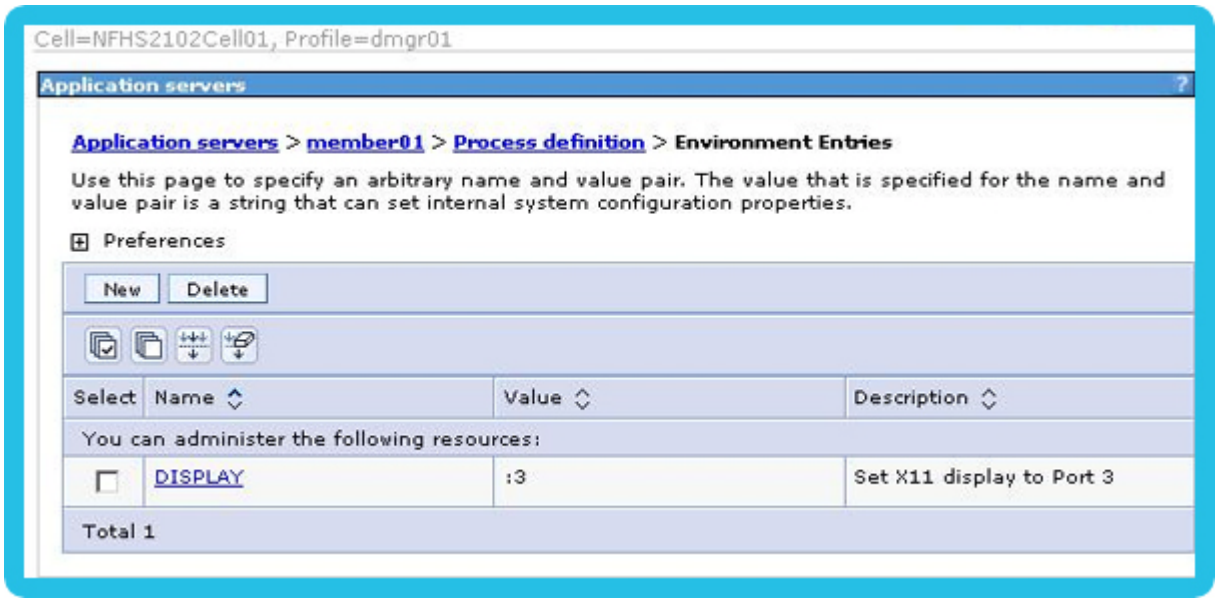


Figure 3 - 62: Environment entries on WebSphere 7

9 Create a new *Environment Entry* with name `DISPLAY` and value `:3`.

10 If the account used for installation doesn't have a *home* directory, add an *Environment*

Entry `HOME` with a value pointing on a directory where the Convertigo workspace will be created.

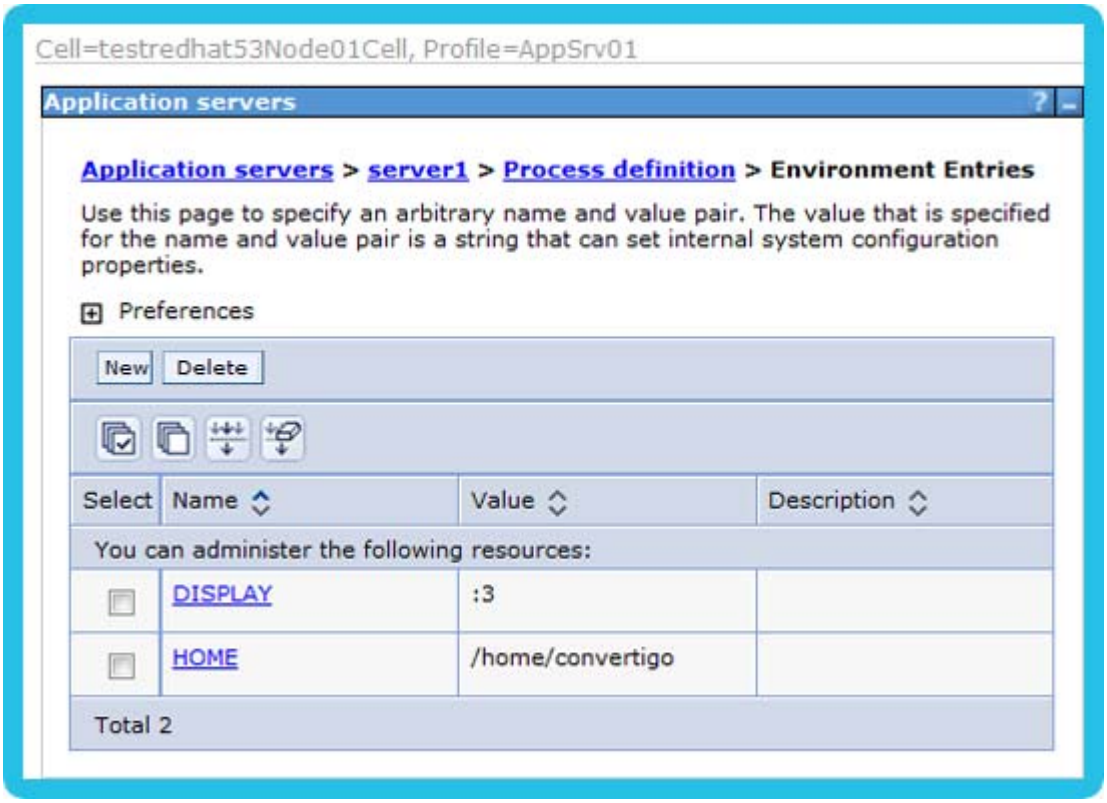


Figure 3 - 63: Environment entries on WebSphere 7

Beware that the `/home/convertigo` directory MUST exist before Convertigo Server runs.

For more information on Convertigo workspace and projects workspace, see Appendix "Convertigo workspace" on page A - 2.

11 You have to configure all members on which Convertigo Server runs. To do so, repeat steps 2 to 10 of this procedure for each member.

You can also use a template before creating members to deploy these parameters.

12 The installation can be validated by calling the following URL in a Web browser:

```
http(s)://<WebSphereIPAddress>:<WebSpherePort>/convertigo/
```

- *WebSphereIPAddress* is the host name or IP address of your WebSphere server.
- *WebSpherePort* is the port number of your WebSphere server.

The Convertigo Server *Administration Console* opens on the authentication page:

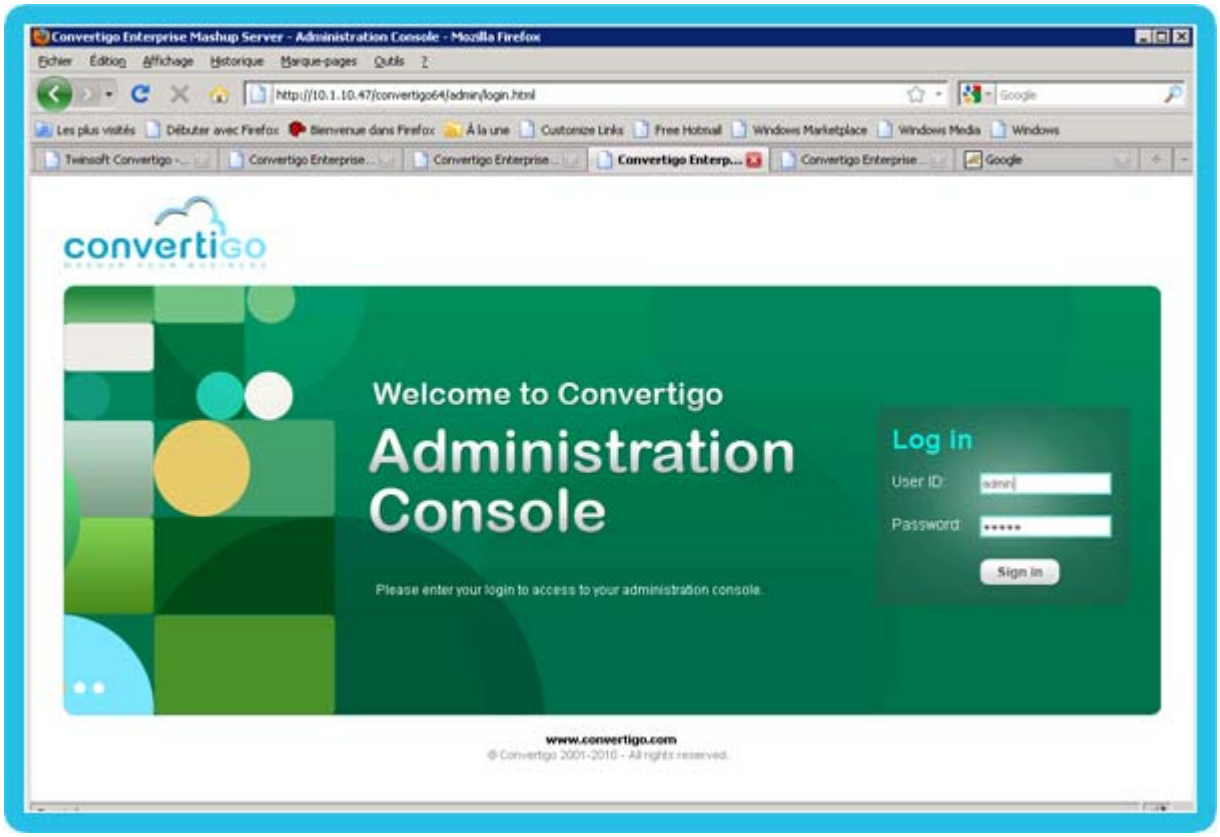
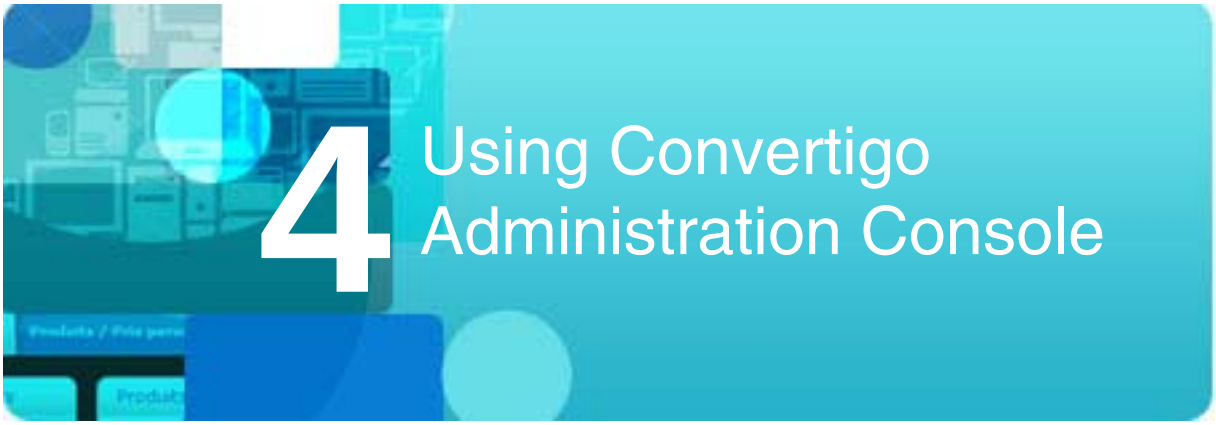


Figure 3 - 64: Convertigo Server Administration authentication page



4 Using Convertigo Administration Console

This chapter describes several of the actions and configurations possible with the Convertigo engine Administration Console.

- General presentation of the Administration Console
- Configuration
- Connections
- Projects
- Certificates
- Logs
- Trace Player
- Cache
- Scheduler
- Keys
- Global symbols

4.1 General presentation of the Administration Console

Configure Convertigo Studio or Convertigo Server engine settings by using Convertigo Administration Console, a web application that is accessible online and through Convertigo Studio.

This section introduces you to Convertigo Administration Console:

- Accessing the Administration Console
- Home page

4.1.1 Accessing the Administration Console

This section explains step by step how to connect to your Convertigo Administration Console. Convertigo Server administrators can access the Administration Console of the Convertigo Server's engine. Developers can access the Administration Console of the engine embedded in their Convertigo Studio.

To access Convertigo Administration Console

As a Web application, Convertigo Server Administration Console is accessible through a Web browser. To access the Administration Console:

1. Launch a standard Web browser (Mozilla Firefox for example).
2. In the URL address field, type in the URL in the following format:

```
http://<ConvertigoServer>/<ConvertigoAppName>/admin
```

For example, to access a local Convertigo Studio or Convertigo Server administration:

- *ConvertigoServer* = `localhost:18080` (or `localhost:28080` for local server installation)
- *ConvertigoAppName* = `convertigo`

The result as seen in a Mozilla Firefox URL address bar:

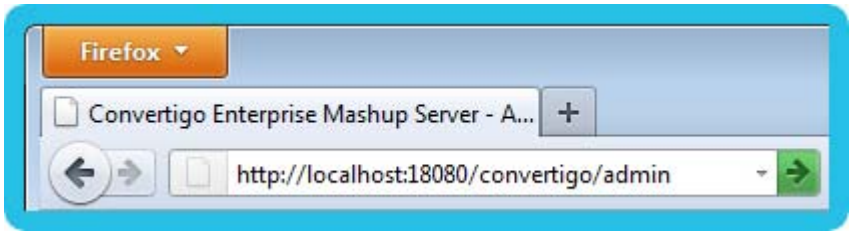


Figure 4 - 1: Convertigo Studio administration URL

For example, to access a Convertigo Cloud administration:

- *ConvertigoServer* = `me.convertigo.net`
- *ConvertigoAppName* = `cems`

As seen in a Mozilla Firefox URL address bar:

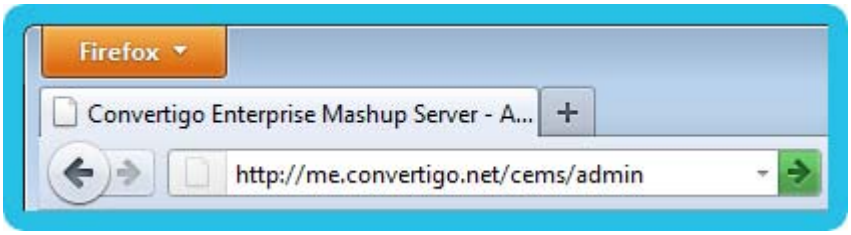


Figure 4 - 2: Convertigo Cloud administration URL

When validating the URL, the *Administration Console*'s *Authentication* page opens. You have to be authenticated to access the *Administration Console*.

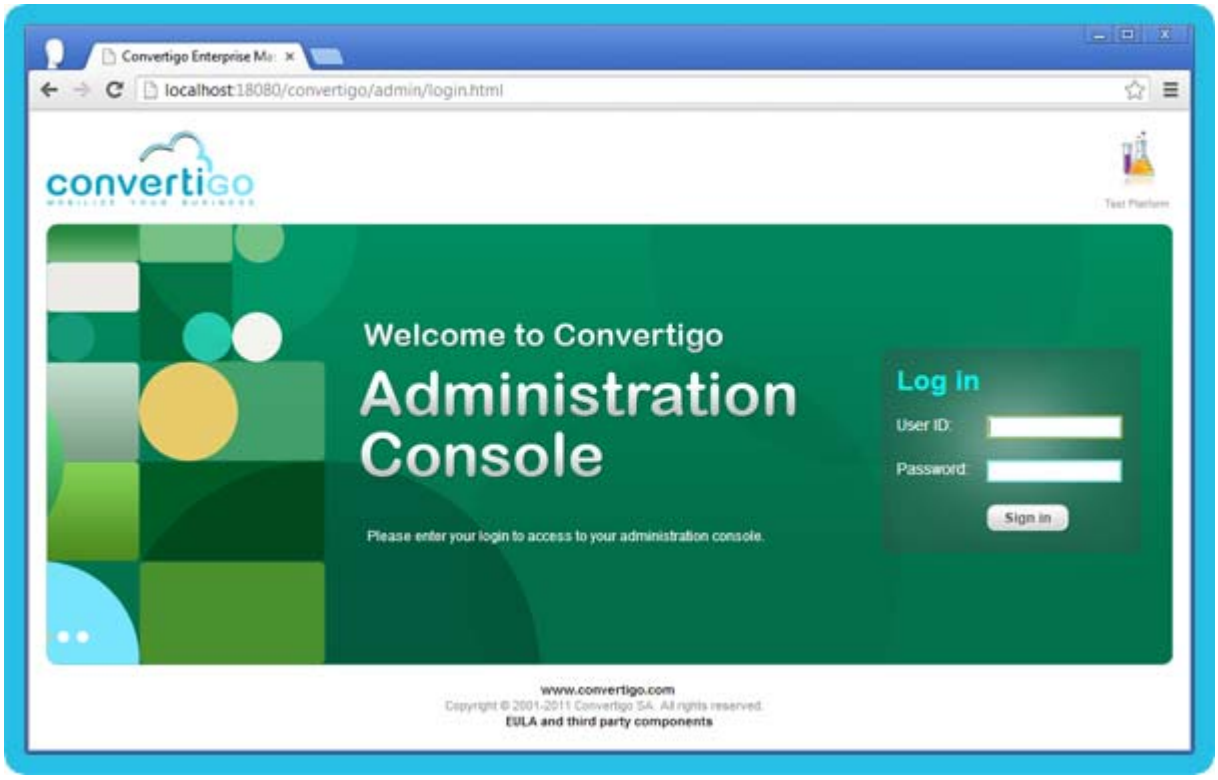


Figure 4 - 3: Administration Console authentication page

3 Enter the Convertigo Server login credentials in the **User ID** and **Password** fields.

For example, in case of a Convertigo Studio or a default Convertigo Server installation, default username/password is `admin`/`admin`. In case of a private Convertigo Cloud, credentials were delivered to you by email.

4 Click on the **Sign in** button or press `Enter` on your keyboard.

Once logged in, the Administration Console *Home* page opens:

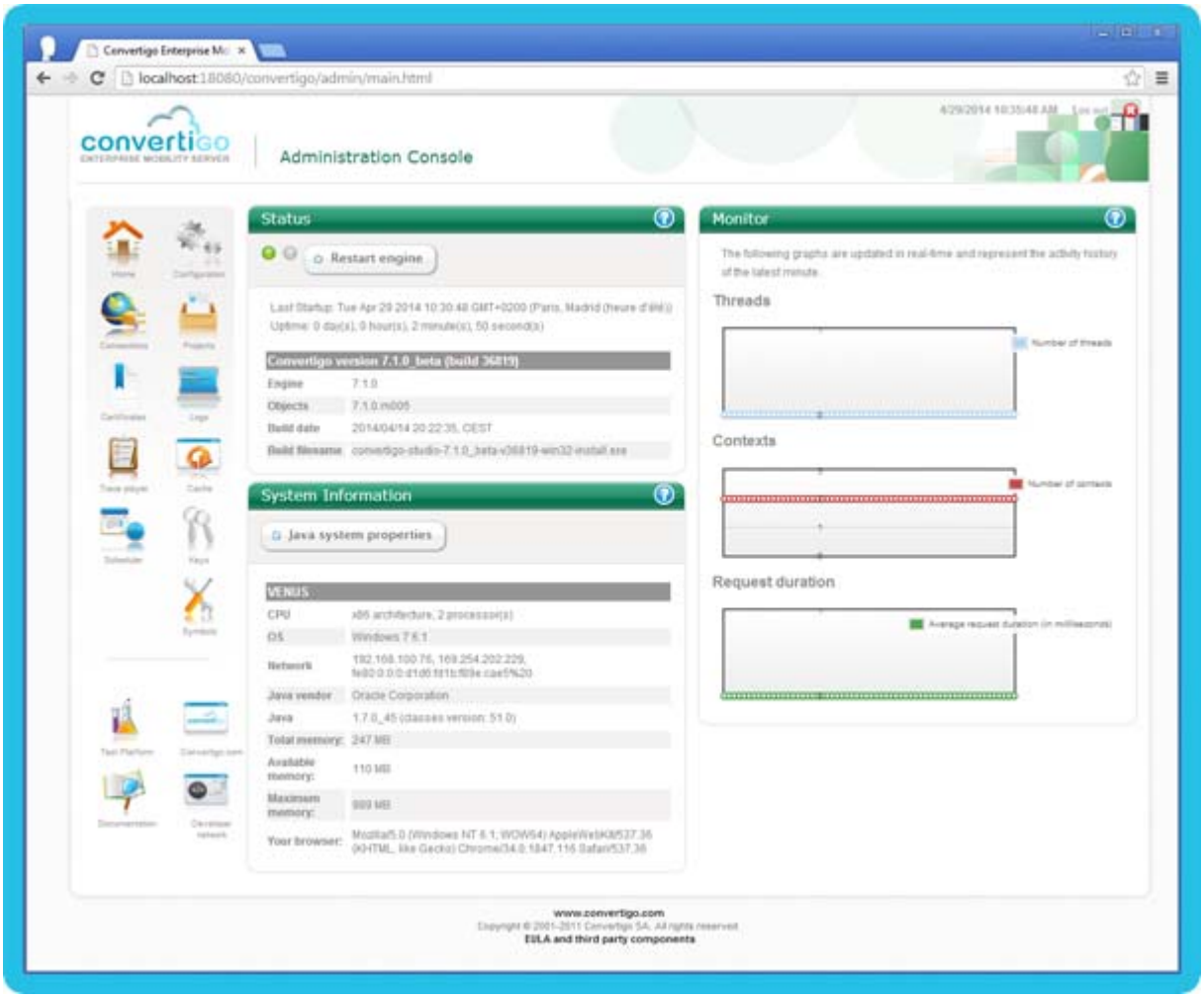


Figure 4 - 4: Administration Console Home page

4.1.2 Home page

The Administration Console *Home* page displays two main parts:

- the *Left menu* contains links to the Convertigo Server Administration pages and some external links are also present leading to the Convertigo website, the documentation, the Test Platform, etc.:

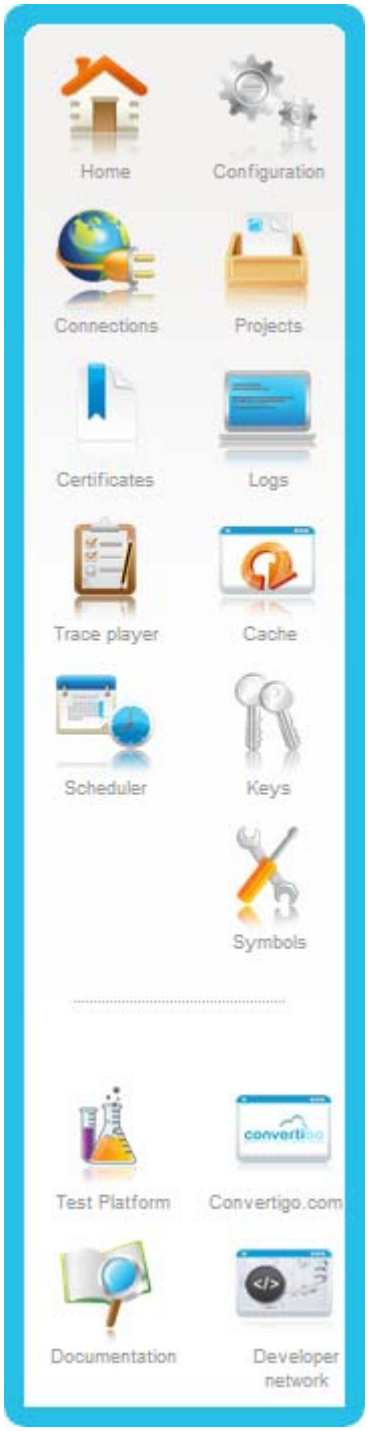


Figure 4 - 5: Administration Console left menu

Note that in Convertigo Cloud, some pages are not accessible in the Administration Console, the left menu may look different. For more information, see appendix "Differences between Convertigo Server and Convertigo Cloud in Administration Console" on page A - 14.

- and, a part to the right that contains three widgets:
  - ***Status*** widget

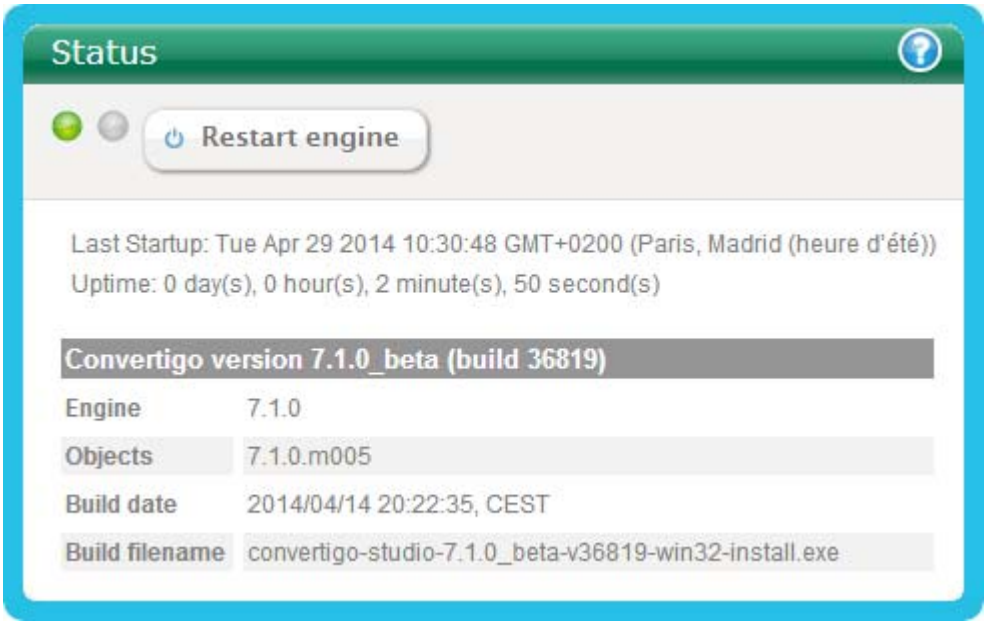


Figure 4 - 6: Status widget in Administration Console Home page

This widget provides you with information about the Convertigo engine, `started` or not, thanks to the two bullets (green/red) on the top of the widget.

It allows you to restart the Convertigo engine by pressing the **Restart engine** button.

Note that doing so will disconnect all active connections on the Convertigo Server and remove all contexts, active or inactive.
You can monitor contexts in the Connections page. For more information about Connections page, see "Connections" on page 4-33.

Below, the widget displays information about the the starting time of the Convertigo engine, as well as versioning information about Convertigo, Convertigo build number, engine and objects. This information can be necessary to understand some situations and may be required in support cases.

- ***System Information*** widget

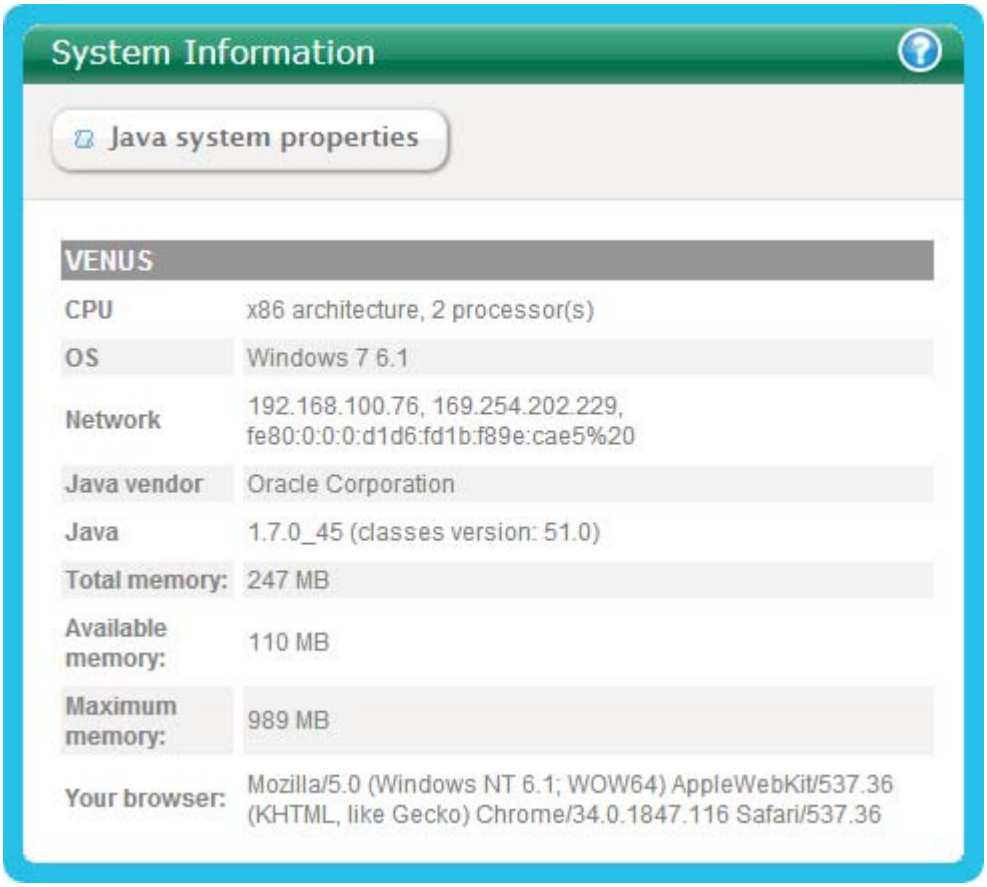


Figure 4 - 7: System Information widget in Administration Console Home page

This widget presents the system properties of the host and the browser you're using. You can also see details about Java properties in a pop-up by clicking on the **Java system properties** button.

- ***Monitor*** widget

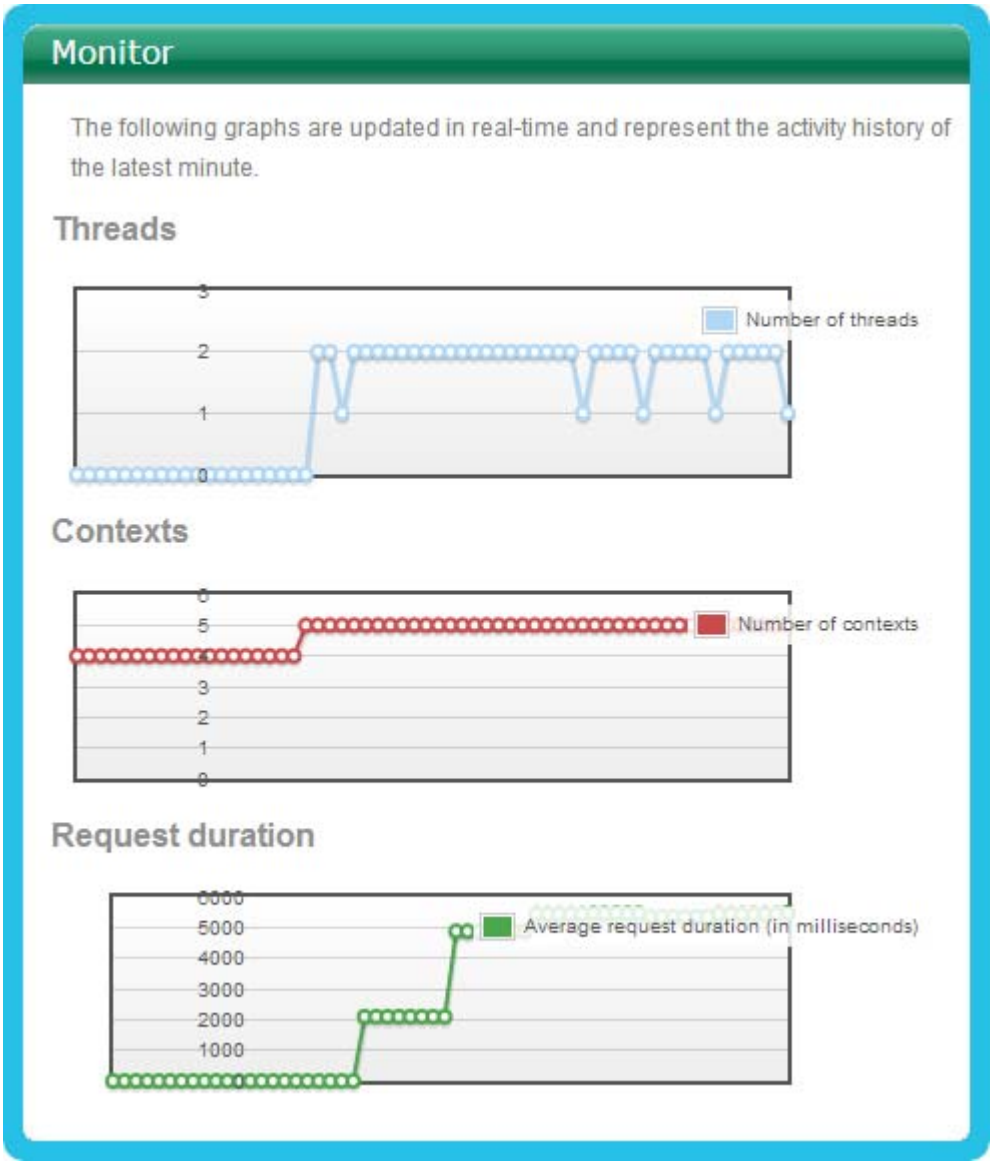


Figure 4 - 8: Monitor widget in Administration Console Home page

This widget shows the engine activity in real-time: the number of threads in activity, the number of active contexts and the average request duration.

WHAT'S NEXT

The following sections present information about the Administration Console pages that can be reached through the links on the *Left menu*.

For now, this documentation is not complete. Its content will be expanded soon.

Note that in Convertigo Cloud, some pages are not accessible in the Administration Console, the left menu and pages content may look different. For more information, see appendix "Differences between Convertigo Server and Convertigo Cloud in Administration Console" on page A - 14.

4.2 Configuration

The *Left menu* contains a link to the *Configuration* page. This page enables configuring several settings of the Convertigo engine.

This section explains step by step how to access to the *Configuration* page, its categories, how to edit a Convertigo engine property, and presents the settings that can be configured on it, in the several tabs that compose the page:

- Configuration page
- Main parameters
- Accounts
- Logs
- Real-time activity monitoring
- XML generation
- HTML parser
- HTTP client
- Network
- Proxy
- Security token
- SSL
- Cache
- Legacy Carioca portal
- Analytics
- Notifications
- Mobile builder

4.2.1 Configuration page

- Accessing the Configuration page
- Presentation of the Configuration page
- Using the Configuration page

ACCESSING THE CONFIGURATION PAGE

The following procedure explains how to access the *Configuration* page of the Convertigo Administration Console.

To access Configuration page in the Administration Console

1 Follow the procedure *"To access Convertigo Administration Console"* on page 4 - 2 to access Convertigo Administration *Home* page.

2 Click the **Configuration** button on the *Left menu*:

Figure 4 - 9: Accessing Configuration page

The Administration Console *Configuration* page opens:

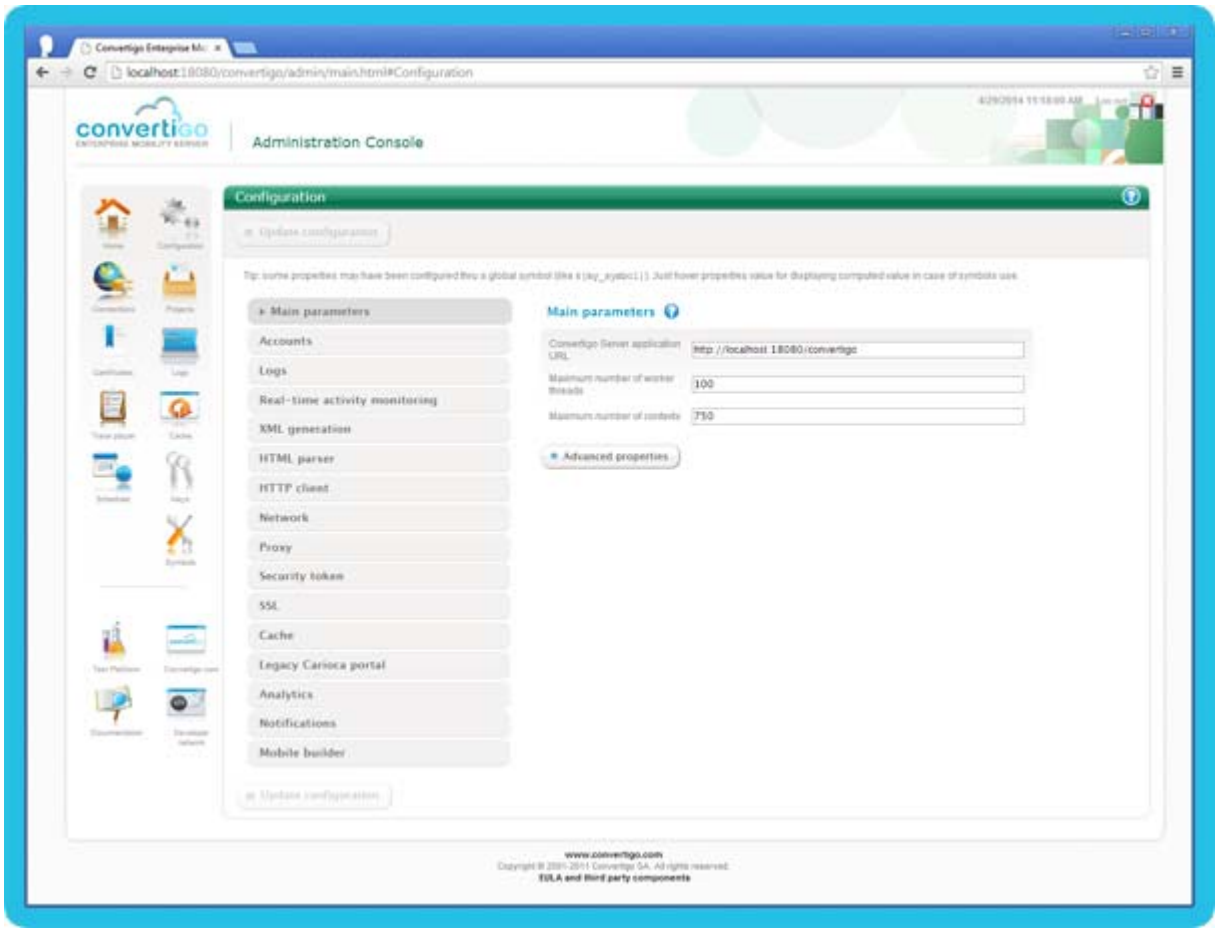


Figure 4 - 10: Administration Console Configuration page

PRESENTATION OF THE CONFIGURATION PAGE

The *Configuration* page allows you to configure specific properties of the Convertigo engine, organized in categories. This page displays two main parts:

- the left part contains a list of tabs corresponding to configuration categories:

Figure 4 - 11: Category tabs on Configuration page

Note that in Convertigo Cloud, some categories of configuration are not accessible in the Administration Console. The tabs in the left may look different. For more information, see appendix "Differences between Convertigo Server and Convertigo Cloud in Administration Console" on page A - 14.

- and the right part contains the properties of the selected category tab (for example here the *Main parameters* tab properties) :

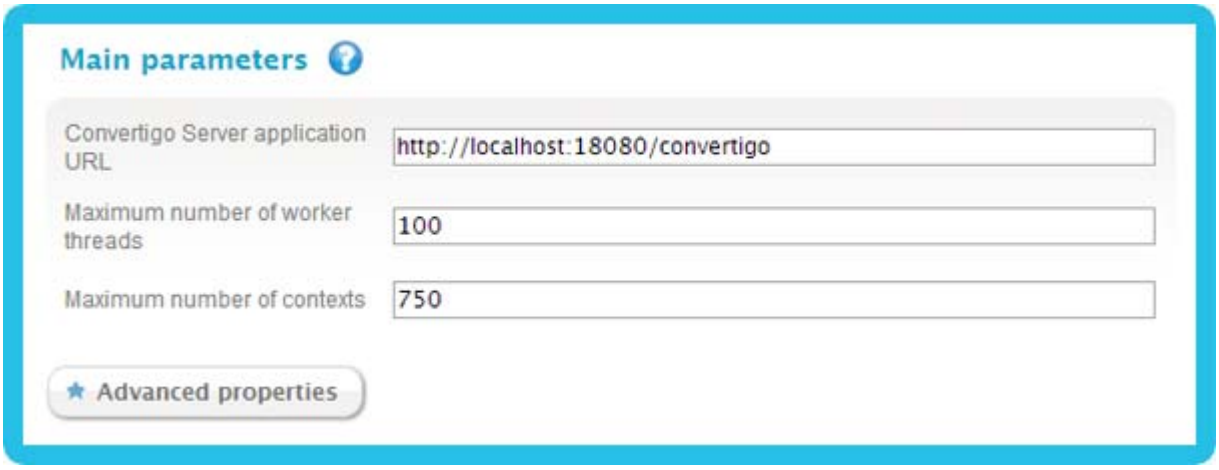


Figure 4 - 12: Properties of the Main parameters tab on Configuration page

Note that a question mark icon is available at the right of the category title. Clicking on this question mark icon automatically opens the corresponding documentation page in a new tab of your browser.

USING THE CONFIGURATION PAGE

The following procedures explain:

- how to access a configuration category with its editable properties,
- how to access the advanced properties of a category,
- how to edit a Convertigo engine property using the *Configuration* page.

To access a configuration category in the Configuration page

1 In the left part of the *Configuration* page, click on the tab that corresponds to the needed category, for example here click on the *XML generation* category tab:

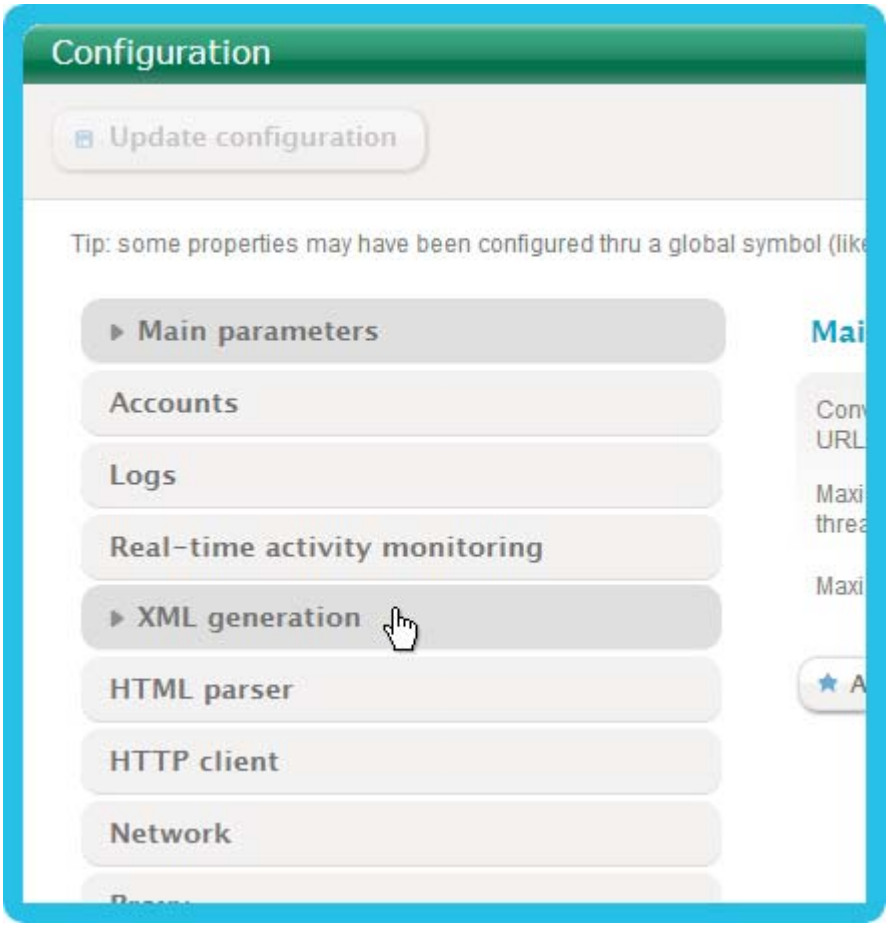


Figure 4 - 13: Selecting a category tab on Configuration page

The corresponding properties are displayed on the right part of the page:

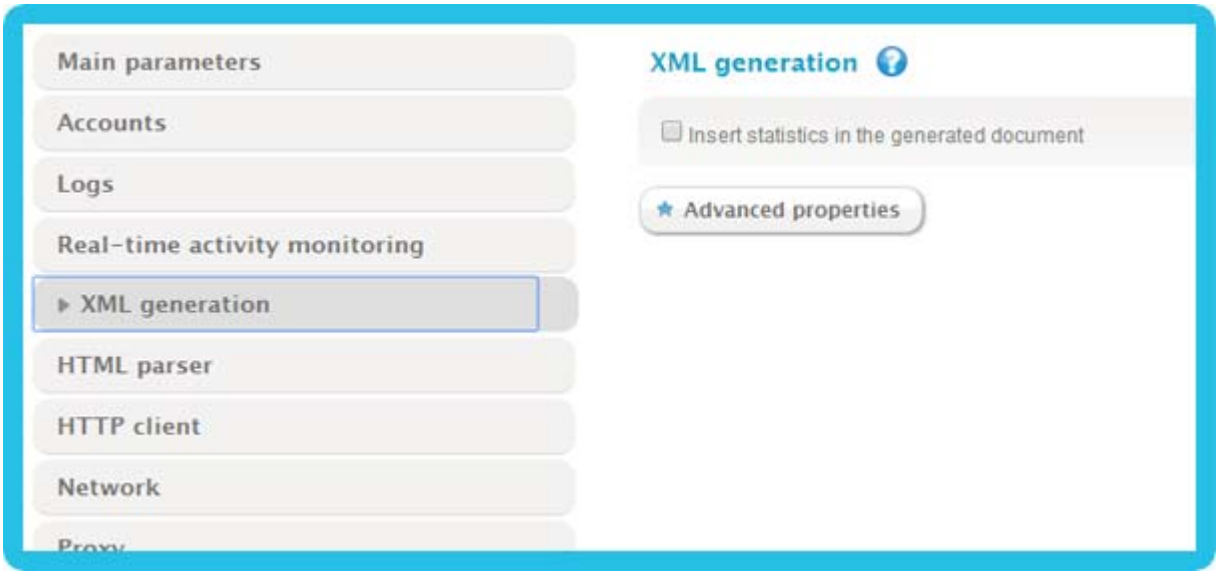


Figure 4 - 14: Category properties on the right

The next procedure explains how to access to the advanced properties of a category.

To access the advanced properties of a configuration category

1 Access the appropriate category using the procedure *"To access a configuration category in the Configuration page"* on page 4 - 12.

2 In the right part of the *Configuration* page, click on the **Advanced properties** button at the bottom of the category properties:

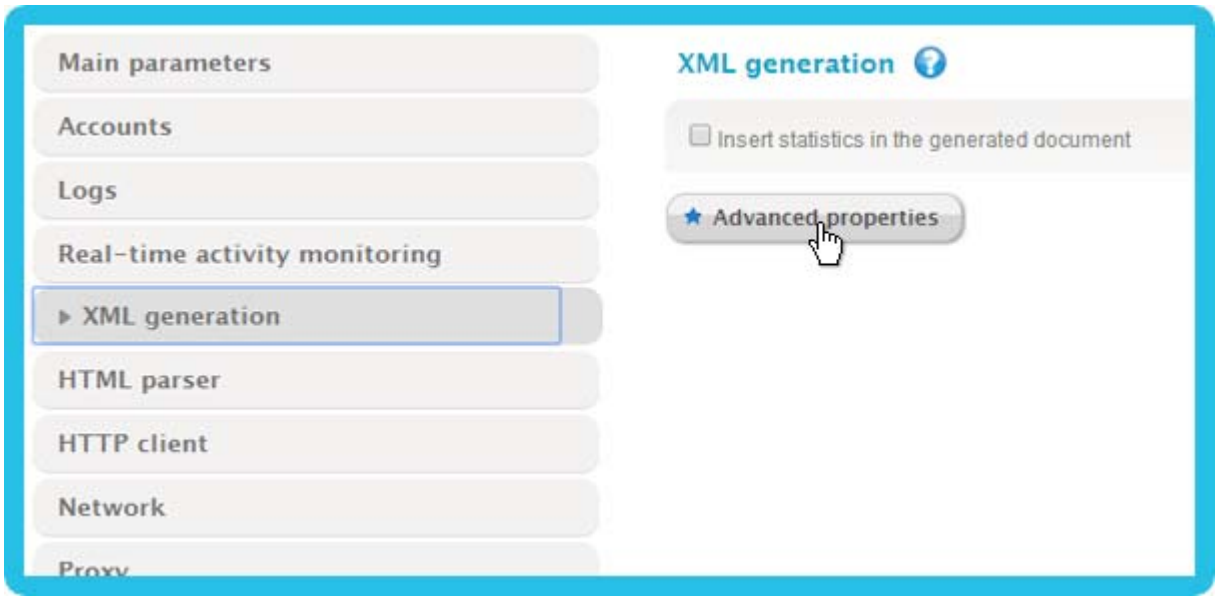


Figure 4 - 15: Accessing advanced properties on Configuration page

The advanced properties of the currently selected tab are displayed in a blue background area below the **Advanced properties** button:

Figure 4 - 16: Advanced properties for a category

The next procedure explains how to edit a Convertigo engine property in the *Configuration* page.

To edit a Convertigo Engine setting using the Configuration page

1 Access the category tab that contains the setting you need to change by following one of the procedures *"To access a configuration category in the Configuration page"* on page 4 - 12 or *"To access the advanced properties of a configuration category"* on page 4 - 13. For example here let's access the *Accounts* category:

The tab opens (for example here the *Accounts* tab):

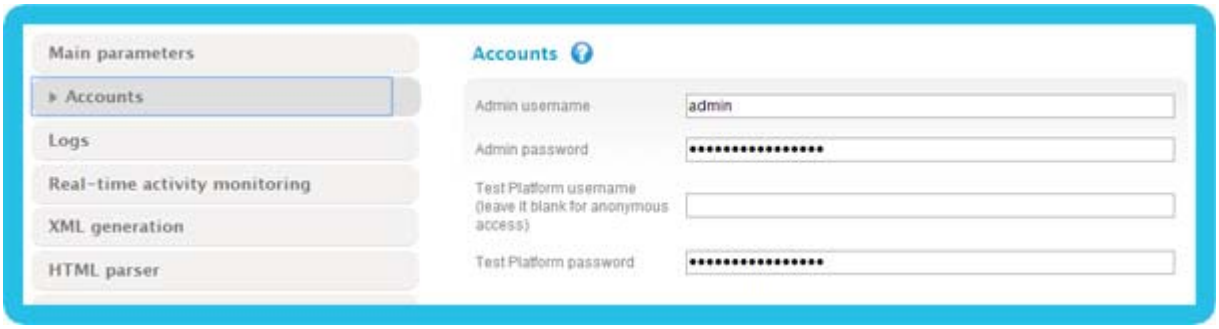


Figure 4 - 17: Accounts tab

2 On the right part of the *Configuration* page, change the value of the engine property you want to edit in the corresponding field. (For example here we add a **Test Platform username** and **Test Platform password** in the appropriate fields.)

3 Click on the **Update configuration** button located on the top (or bottom) of the *Configuration* page:

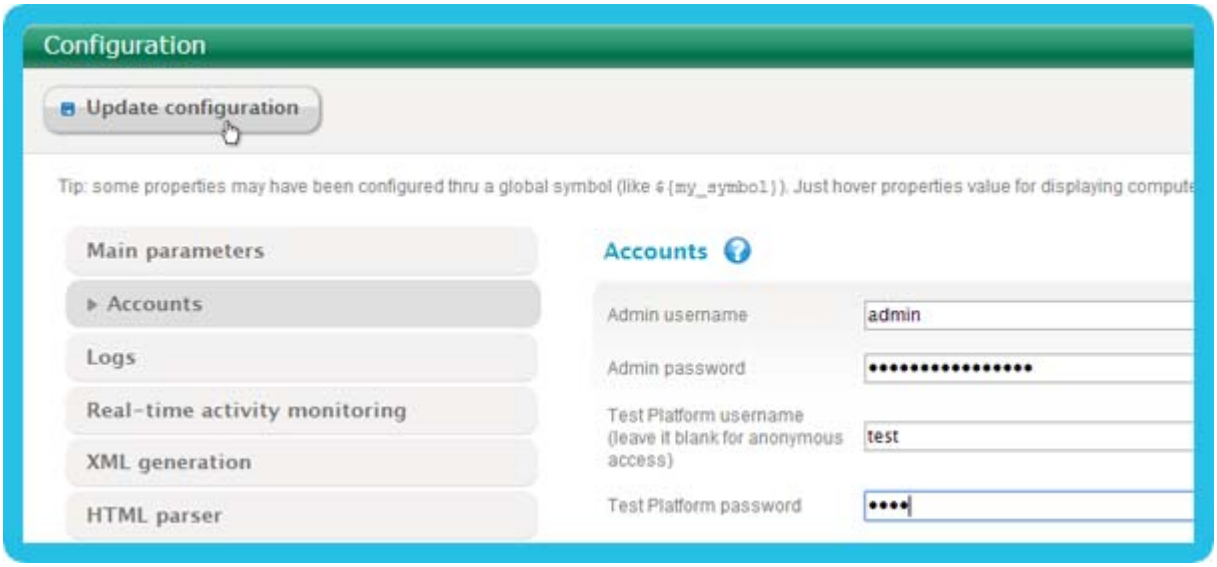


Figure 4 - 18: Setting updated parameters and updating configuration

A pop-in appears to confirm that the new parameters have been taken into account:

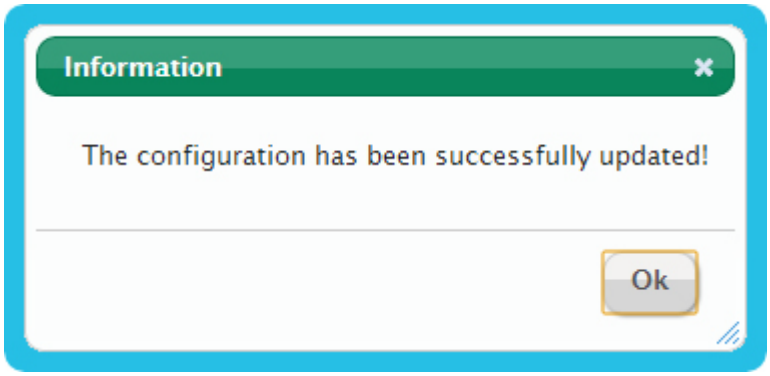


Figure 4 - 19: Confirmation pop-in

4 Click on the **Ok** button to close the pop-in.

The engine setting is updated. Beware that sometimes, the Convertigo engine needs to

be restarted for the new property to be taken into account. This is specified on such properties documentation.

WHAT'S NEXT

The following sections present in details the tabs present in the *Configuration* page and the specific settings that can be configured on each tab.

4.2.2 Main parameters

Edit your Convertigo Server main parameters in *Main parameters* tab. This tab can be opened by following the procedure *"To access a configuration category in the Configuration page"* on page 4 - 12.

This tab includes an Advanced properties section that can be opened by following the procedure *"To access the advanced properties of a configuration category"* on page 4 - 13. In the Advanced properties section, configure the main advanced Convertigo configuration parameters.

- Properties
- Advanced properties

PROPERTIES

- **Convertigo Server application URL**: Convertigo Server URL, this URL informs Convertigo Server of its external access URL, including the domain or IP address of the server, and the listening port of the server (configured in the application server).
  - This URL is used by several functionalities of Convertigo Server and it is very important that it is correctly configured, otherwise these functionalities would not work correctly (for example: *Call Sequence* or *Call Transaction* steps not using internal invoke, Scheduler, WSDL generation, etc.). This URL should be configured at the end of the Convertigo Server installation.
  - In case of Convertigo Studio, this URL is used in addition to define the listening port of the embedded server, as well as for the transaction or sequence executions using the "Execute" functionality.
- **Maximum number of worker threads**: Maximum number of simultaneous worker threads Convertigo will open in the application server. Though there is no theorical limit to this, some application servers seem to be unstable when too many worker threads are in use. Convertigo limits itself to prevent server collapse.

What are worker threads ?
*For every request sent to Convertigo, a thread of the application server (Tomcat by default) manages the request and transfer it to Convertigo. Convertigo engine creates a **worker thread** to execute the request. Once the request is performed, the **worker thread** is released and can be used again.*
*The arbitrary limit set with the **Maximum number of worker threads** property is never exceeded. When this limit is reached, every new request to Convertigo is rejected (the Convertigo engine throws an Exception) until a worker thread has finished performing its request and is available for a new one.*

- **Maximum number of contexts**: Maximum number of simultaneous contexts Convertigo will create. This parameter allows the Convertigo server to protect itself from massive context creation policies. Too many contexts created in a server could lead to OutOfMemory errors, resulting in completely blocked server. Convertigo limits its number of contexts to prevent server collapse.

What is the difference between contexts and worker threads ?
*For every request sent to Convertigo, a **context** is created (or re-used if the request specifies a context name). Inside this context, a **worker thread** is created by Convertigo engine to execute the request.*
*Once the request is performed, the **worker thread** is released and can be used again by Convertigo engine, the **context** is not always released or re-used, it can remain open without requests to execute for a while (without worker thread working).*
*The arbitrary limits set with the **Maximum number of worker threads** and **Maximum number of contexts** properties are not managing the same objects. They are not reached at the same time nor in the same conditions. Depending on the projects and environments, one of these properties or both may be used.*
When one of these limits is reached, every new request to Convertigo is rejected (the Convertigo engine throws an Exception) until a worker thread has finished performing its request or a context is destroyed and/or is available for a new request.

ADVANCED PROPERTIES

- **Product version check**: Activated by default, this option enables the verification of Convertigo version number in projects that attempt to be deployed. This helps users not to deploy projects that were created in a greater version of Convertigo in an older version of Convertigo. Indeed, in this case, the projects may not be compatible, due to the add of objects or objects' properties in the software, that an older version of Convertigo cannot handle. In the opposite case, a new version of Convertigo is always compatible with older version, that makes projects to be importable in newer version of Convertigo, possibly including an automatic migration of projects if need be.
- **Use the Java Thread.stop() method in order to finish threads**: When a transaction or sequence timeout is reached, its thread is gracefully stopped. In some case, the transaction/sequence thread is locked (by reading blocking socket, or whatever) and cannot be gracefully stopped. Enabling this property allows Convertigo to use the deprecated `Thread.stop()` method in these cases to end the transaction/sequence thread.

- **(Linux only) Launch Xvnc server using DISPLAY environment variable at startup**: On Linux operating systems, the *HTML Connector* and the *Legacy Connector monitors* need an `X server`. Convertigo uses the `X server` corresponding to the `DISPLAY` environment variable value. If there is no `X server` on this `DISPLAY`:
  - if this property is set to `true`, an `Xvnc server` is launched on that `DISPLAY`,
  - if this property is set to `false`, the HTML connector is not available and a message is traced in log files.

The `Xvnc server` is a headless `X server` that can be viewed by a VncViewer on the port `5900 + DISPLAY` value. If `DISPLAY=:3`, the `Xvnc server` will listen the port `5903`.

- **(Linux only) Depth parameter for the Xvnc, default is 16**: Set the colour depth of the Xvnc visual to provide, in bits per pixel. Must be a value between 8 and 32.

*This property value is used if the Convertigo Server needs to launch an `Xvnc server` (see previous **Launch Xvnc server using DISPLAY environment variable at startup** property description).*

- (**Linux only) Geometry parameter for Xvnc, default is 320x240**: Set virtual desktop width and height, in pixels.

*This property value is used if the Convertigo Server needs to launch an `Xvnc server` (see previous **Launch Xvnc server using DISPLAY environment variable at startup** property description).*

Beware that these three last options concerning Linux operating systems have to be used by very advanced users, or on the advice of the Convertigo team. Otherwise, this could lead to a non-functioning HTML connector.

- **Time allowed for pool management task in seconds (-1 for disable)**: This property defines the time in seconds allowed to the pool manager to start its contexts. If this time is reached, the pool manager does not start a new context and lets the context manager work before continuing its activities. Setting this property to `-1` disables time checking: the pool manager starts all needed contexts before it lets the context manager work.

The pool manager is the entity that watches and starts contexts for connectors configured with pools. The pool manager shares the same thread as the context manager. While the pool manager is running, the context manager cannot do its tasks, like removing expired contexts.

- **Enable the compatibility mode for projects data (required for JSP usage); engine restart required**: Activate this option if you need to use an old Convertigo project using JSP pages in a new Convertigo Server. Indeed, some old projects may have used specific code in JSP pages of the project, to deliver content and functionnalities to the client application. Since Convertigo 5.0, the JSP pages usage in Convertigo has been replaced

by a JavaScript framework named Convertigo Weblib.

Beware that if you check this option, you will need to restart Convertigo engine for it to be taken into account.

- **Use same JSESSIONID for sequences and steps**: This option, activated by default, makes the sequence automatically re-use the client session cookie (`JSESSIONID`) of its context as its own `JSESSIONID`, used in contexts created by *Call Transaction* and *Call Sequence* steps. This is useful mainly when a context has to be maintained between several transaction calls.

*Convertigo Server uses the client session cookie (`JSESSIONID`) as a parameter to build the **contextId** of requested object (transaction or sequence) executions. In case of a sequence execution, this sequence can call other transactions or sequences thanks to Call Transaction or Call Sequence steps. In this case, the sequence itself is seen as a client to Convertigo. This parameter is used in this case only.*

- **Add XML encoding charset for SOAP requests**: This option, when activated, adds the following XML encoding charset declaration in client SOAP requests: `<?xml version="1.0" encoding="UTF-8"?>`.
- **Throw HTTP 500 in case of unrecoverable servlet error**: This option, activated by default, makes Convertigo Server return an `HTTP 500 response` to the requesting client when an unrecoverable servlet error occurs (no available pool, busy server, unable to connect to target resource, etc.). Unchecking this option makes Convertigo Server answer an `HTTP 200 response` containing the same content in such cases.
- **Hide detailed information in case of unrecoverable servlet error**: When activated, this option makes Convertigo Server hide error information (the Java Exception stack trace, the detailed information of the error, etc.) where they can be displayed (engine logs, response XML, etc.) when an unrecoverable servlet error occurs (no available pool, busy server, unable to connect to target resource, etc.). This option is not activated by default.
- **Throw HTTP 500 in case of SOAP fault**: This option, activated by default, makes Convertigo Server return an `HTTP 500 response` to the requesting SOAP client when a SOAP fault exception is thrown (by the project managing an error or by the Web service requester of Convertigo). Unchecking this option makes Convertigo Server answer an `HTTP 200 response` containing the same content in such cases.

4.2.3 Accounts

Edit your Convertigo Server accounts in *Accounts* tab. This tab can be opened by following the procedure *"To access a configuration category in the Configuration page"* on page 4 - 12.

Two types of account are editable:

- the ***Administrator account***: Enter the administrator's username and password in the **Admin username** and **Admin password** fields. This account is used to access the *Administration Console* of the Convertigo Server. Default values are `admin`/`admin`.

- the ***Test account***: Enter the tester username and password in the **Test Platform username** and **Test Platform password** fields. This account is used to access the *Test Platform* of projects running in the Convertigo Server. Leaving the username field blank deactivates the Convertigo tester account for authentication process (anonymous access).

4.2.4 Logs

Control your log settings under the *Logs* tab. This tab can be opened by following the procedure *"To access a configuration category in the Configuration page"* on page 4 - 12.

This tab includes an Advanced properties section that can be opened by following the procedure *"To access the advanced properties of a configuration category"* on page 4 - 13. In the Advanced properties section, configure the advanced log settings.

More information about log management is coming soon.

4.2.5 Real-time activity monitoring

Edit your real-time monitoring settings under the *Real-time activity monitoring* tab. This tab can be opened by following the procedure *"To access a configuration category in the Configuration page"* on page 4 - 12.

Two options are available in this tab:

- **Display running connectors in monitor of Legacy connectors**: When activated, this option displays a graphical rendering of the legacy connectors currently in use in the active contexts of the Convertigo Server, in the *Legacy connectors monitor*.

The Legacy connectors monitor is a window that may be visible or not depending on the Convertigo Server installation. Both Windows and Linux based systems must meet specific requirements for this option to be effective. For more information, see the appendix "Connector monitoring windows" on page A - 5.

Beware that if you check this option, you will need to restart Convertigo engine for it to be taken into account.

- **Trace in logs the screen dumps of the running Legacy connectors**: When activated, this option makes a text screen dump of each mainframe screen Convertigo detects in the legacy connectors currently in use in the active contexts. These screen dumps are output in context logger, it only works when context logger is activated at minimum `INFO` level.

4.2.6 XML generation

Edit the parameters of XML generation of the transactions and sequences results in *XML generation* tab. This tab can be opened by following the procedure *"To access a configuration category in the Configuration page"* on page 4 - 12.

This tab includes an Advanced properties section that can be opened by following the

procedure *"To access the advanced properties of a configuration category"* on page 4 - 13. In the Advanced properties section, configure the advanced parameters of XML generation of the transactions and sequences results.

- Properties
- Advanced properties

PROPERTIES

- **Insert statistics in the generated document**: This option, when activated, adds statistics about the time of execution of the transaction or sequence in the output response. These statistics, which data accuracy is not guaranteed, are:
  - inserted as a commentary into the response (the syntax depends on the requester: `XML`, `SOAP`, etc. and are not available some times: for `JSON` requester for example)
  - and are visible only when calling the transaction or sequence from a client (not visible in Studio execution).

  Note: This property has nothing to do with the transaction/sequence's **Add statistics to response** property that can be edited for each transaction/sequence and does not have the same behavior in response.

ADVANCED PROPERTIES

- **XSLT engine**: This option allows you to choose an XSLT engine used by Convertigo Server to perform the XSL transformations of the XML responses of transactions or sequences that are bound to a stylesheet.

We recommend using the default setting for XSLT engine, being `Java Xalan (XSLTC)`.

4.2.7 HTML parser

Edit the parameters of the HTML parser, based on Mozilla `XULRunner`, in *HTML parser* tab. This tab can be opened by following the procedure *"To access a configuration category in the Configuration page"* on page 4 - 12.

This tab includes an Advanced properties section that can be opened by following the procedure *"To access the advanced properties of a configuration category"* on page 4 - 13. In the Advanced properties section, configure the advanced parameters of the HTML parser, based on Mozilla `XULRunner`.

- Properties
- Advanced properties

PROPERTIES

- **Max connections (from 1 to 65535)**: This preference limits the total number of HTTP connections Convertigo can open using `XULRunner`. If more connections are needed, they are queued until a connection "slot" is available. This preference takes values between 1 and 65535 inclusive.

- **Max connections per server (from 1 to 255)**: This preference limits the total number of HTTP connections Convertigo can make using `XULRunner` to a single server. If more connections are needed, they are queued until a connection "slot" is available. This preference takes values between 1 and 255 inclusive.
- **Max persistent connections per server (from 1 to 10)**: This preference limits the total number of HTTP keep-alive connections Convertigo can make using `XULRunner` to each site, if a proxy server is not configured. If more connections are needed, they are queued until a connection "slot" is available. This preference takes values between 1 and 10 inclusive.

HTTP keep-alive connections can be re-used for multiple requests, as opposed to non-keep-alive connections, which are limited to one request. Using keep-alive connections improves performance.

- **Override User-Agent**: This option defines a user-agent string to replace the standard XulRunner `user-agent`, which is for example: `Mozilla/5.0 (X11; U; Linux i686 (x86_64); en-US; rv:1.9.0.17)`, with "`X11; U; Linux i686 (x86_64)`" being a variable part depending on the operating system.

ADVANCED PROPERTIES

- **Override Accept-Language header**: This option defines an `accept-language` header value to replace the standard XulRunner `accept-language` header value, which is for example: `en-us,en;q=0.8,fr-fr;q=0.5,fr;q=0.3`.
- **Allow image**: General parameter that enables or disables the **Image rendering** property of the browser. This value can be overridden using a *Browser property change* statement in HTML transactions.
- **Allow plugin**: General parameter that enables or disables the **Plugin feature** property of the browser. This value can be overridden using a *Browser property change* statement in HTML transactions.
- **Check cache validity (false could increase latency)**: This preference defines how often to check for a new version of a cached page. Default value is `true`, meaning it checks for a new version when the cached page is out of date. If set to `false`, checking for a new version of a page is done once per session (a session starts when the first application window opens and ends when the last application window closes).

When a page is loaded, it is cached so it doesn't need to be downloaded to be redisplayed. If the page changes after a previous visit, you may want to redownload it anyway to get the updated page. This preference can be used in such cases.

- **Enable screen rendering during parse (should be disabled)**: This preference defines whether the application will interrupt parsing a page to respond to UI events. If `true`, parsing can be interrupted to process UI events. Default value is `false`, parsing cannot be interrupted, the application will be unresponsive until parsing is complete.
- **XulRunner path**: This preference allows you to change the `XULRunner` used by Convertigo (should never be changed except for very advanced users).

- **XulRunner work directory**: This preference allows you to change the `XULRunner` working directory (should never be changed except for very advanced users).

Beware that these two last options have to be used by very advanced users, or on the advice of the Convertigo team. Otherwise, this could lead to a non-functioning XULRunner feature.

4.2.8 HTTP client

Edit the parameters of the HTTP client in *HTTP client* tab. This tab can be opened by following the procedure *"To access a configuration category in the Configuration page"* on page 4 - 12.

- **Maximal number of HTTP connections (from 1 to 65535)**: This preference limits the total number of HTTP connections Convertigo can open using HTTP client. If more connections are needed, they are queued until a connection "slot" is available. This preference takes values between 1 and 65535 inclusive.
- **Maximal number of HTTP connections per host (from 1 to 255)**: This preference limits the total number of HTTP connections Convertigo can make using HTTP client to a single server. If more connections are needed, they are queued until a connection "slot" is available. This preference takes values between 1 and 255 inclusive.

HTTP client is used in Convertigo in: HTTP connector, Site Clipper connector, HTML connector (to make the initial connector connection in stateless mode), HTTP statement.

4.2.9 Network

Edit the network parameters in *Network* tab. This tab can be opened by following the procedure *"To access a configuration category in the Configuration page"* on page 4 - 12.

- **Use DNS reverse search for finding host names**: If checked, this option makes Convertigo perform reverse DNS checks on client IP adresses. Resolved client names will then be used along with IP in log files and *Connections* page.

Check this option only if you are sure the Convertigo Server is able to reach a DNS server that serves reverse DNS requests, or response times will greatly deteriorate.

- **Maximum allowed size of a complete multipart request (in bytes). Value -1 indicates no limit.**: This parameter allows to define the maximum allowed size of a multipart request to Convertigo, in bytes. Default value is `-1`, indicating that the request size is not limited.
- **Maximum allowed size of a single uploaded file (in bytes)**: This parameter allows to define the maximum allowed size of one uploaded file when sending a multipart request to Convertigo, in bytes.

Since version 6.1.10, Convertigo allows to receive multi-part requests. The programmers can then develop forms that will be used to upload files to Convertigo as input variables of transactions/sequences.
The transactions/sequences variables can be define as a file upload using the ***Is a file upload*** *property.*

4.2.10 Proxy

Configure the Convertigo Server unified proxy in the *Proxy* tab. This tab can be opened by following the procedure *"To access a configuration category in the Configuration page"* on page 4 - 12.

- **Proxy mode**: In this parameter, three different modes are available to configure the proxy:
  - `disabled`: No proxy.
  - `automatic`: Using this mode, it is possible to automatically configure the proxy through a proxy auto-configuration (PAC) file. The URL of this file has to be set in **Autoconfiguration proxy url** parameter.
  - `manual`: The proxy must be configured manually by filling different fields:
    - **Proxy port**: Port which has to be used by the proxy,
    - **Proxy host**: Address of the proxy server,
    - **Do not apply proxy settings on**: In this field, it is possible to configure the domains to which the proxy should *not* be applied.
- **Proxy authentication method**: This parameter allows to choose what authentication method the proxy should use. The value is to be chosen amongst the following values:
  - `anonymous`
  - `basic`
  - `NTLM`
- **Username** and **Password**: Finally, these parameters allow to set the credentials to be used by the proxy.

Since version 6.0, Convertigo includes a unified HTTP proxy for the following connectors: HTML connector, HTTP connector and Site Clipper connector.
Previously, each connector had its own proxy configuration, configured through its properties. Now that the proxy is unified, only one configuration exists for these connectors.
The proxy configuration set thanks to this administration page will be used by all HTTP, HTML and Site Clipper connectors of all Convertigo projects on the server.

EXAMPLES

Configuring a proxy with basic authentication

1 **Proxy mode**: `manual`

2 **Proxy port**: `3128`

3 **Proxy host**: `192.168.100.9`

4 **Proxy authentication method**: `basic`

5 **Username**: `steph`

6 **Password**: `123`

In case of NTLM authentication, if the proxy is related to LDAP, the username must be preceded by domain name.

Auto-Configuring proxy

1 **Proxy mode**: `automatic`

2 **Autoconfiguration proxy url**: `http://192.168.100.141:18080/qualif/proxy.pac`

4.2.11 Security token

Edit the security token parameters for portal authentications in *Security token* tab. This tab can be opened by following the procedure *"To access a configuration category in the Configuration page"* on page 4 - 12.

This tab includes an Advanced properties section that can be opened by following the procedure *"To access the advanced properties of a configuration category"* on page 4 - 13. In the Advanced properties section, configure the advanced parameters of security tokens for portal authentication.

- Properties
- Advanced properties

PROPERTIES

- **Security token lifetime (in seconds)**: This parameter allows to define the lifetime of security tokens generated by the Convertigo server to authenticate an execution context when running a transaction/sequence in a widget of a portal. The security token must be used by the widget to authenticate an execution context within this lifetime. Otherwise, it will not be validated.
- **Security token generator passphrase**: This parameter allows to define the passphrase used by the Convertigo server to generate the encrypted security token and then to decrypt it when receiving it in a transaction/sequence's execution request.

The default Security token generator passphrase is `c8o-password`. It is strongly recommended to change it as soon as you use this functionnality of portal widgets authentication.

Since version 6.1.10, Convertigo includes a portal widgets authentication process. It allows any widget to use a security token in order to authenticate the context of execution of the transactions/sequences that it runs for getting data.
The authenticated context requirement for executing a transaction/ sequence in the Convertigo server is defined in each transaction/ sequence itself by the ***Authenticated context required*** *property.*

ADVANCED PROPERTIES

- **Storage mode**: This parameter allows to choose how the Convertigo server stores the valid security tokens during their lifetime. This property can take the following values:
  - `memory`: The valid security tokens and their parameters (like their lifetime) are stored in the Convertigo server memory. This is the default value, mostly recommended for a single-instance Convertigo Server. Besides, this is a simpler configuration as you have nothing to configure, the following properties are not used.
  - `database`: The valid security tokens and their parameters are stored in an external database. This is the recommended configuration for multiple instances of Convertigo Server, which would need to share the generated tokens. When using this value, you have to fill the following properties.

When using `database` mode for storing security tokens, Convertigo uses ***Hibernate*** *(version 4.3) to connect to this database. The following properties, that allow configuring the connection to the security token database, are based on Hibernate configuration.*
For more information, see the Hibernate documentation at: ***http://docs.jboss.org/hibernate/orm/4.3/devguide/en-US/html/ch01.html***

- **SQL Dialect**: This parameter defines the `Hibernate SQL Dialect` to use to optimize SQL requests to the security tokens database with correct syntaxes.

For more information on the Hibernate Dialects, see the Hibernate documentation at: ***http://docs.jboss.org/hibernate/orm/4.3/devguide/en-US/html/ch01.html#configuring-dialects***

- **JDBC driver**: This parameter defines the JDBC driver to use for connecting to the security tokens database. Any driver already existing in Convertigo for SQL connector can be used, until it corresponds to the defined `Dialect`. You can refer to appendix *"SQL drivers and related jar files"* on page A - 18 or to the *SQL connector* documentation in the *Reference Manual* for more information about existing drivers.

Other drivers than those existing for SQL connector may be used. They only have to be installed in Convertigo before use.
Request for Convertigo support for installing a new SQL driver in Convertigo.

- **JDBC URL**: This parameter defines the JDBC URL to use for connecting to the security tokens database. The URL depends on the specified driver. You can refer to appendix *"SQL drivers and related jar files"* on page A - 18 for more information about existing

drivers and to the *SQL connector* documentation in the *Reference Manual* for more information about existing drivers and related connection URLs.

- **JDBC username** and **JDBC password**: These parameters define the username and password to use for connecting to the security tokens database.

For more information on the Hibernate JDBC configuration, see the Hibernate documentation at: ***http://docs.jboss.org/hibernate/orm/4.3/devguide/en-US/html/ch01.html#hibernate-jdbc-properties***

4.2.12 SSL

Edit the communication security parameters in *SSL* tab. This tab can be opened by following the procedure *"To access a configuration category in the Configuration page"* on page 4 - 12.

- **SSL debug output (requires JVM restart)**: This option, when activated, makes the Java machine write traces about SSL dialogs in Convertigo in `stdout` console.

SLL dialogs are used in Convertigo in every connector trying to reach the host it is configured to connect to using SSL, i.e. when the connector's SSL mode property is checked.

If you activate this option, you will have to restart the Java machine as it is the one writing traces, it does not take the property into account directly.

- **SSL issuers**: This parameter allows to enter a list os SSL issuers to be added to the standard issuers list, used to validate client certificates.

The Certificates page of the Administration Console defines certificates positioned on projects requiring them. When Convertigo tries to validate a client certificate, this certificate is validated by a list of issuers. These issuers have to be known for the certificate to be validated completely. The standard list of issuers may be incomplete, this is why this property exists.

4.2.13 Cache

Edit the cache parameters in *Cache* tab. This tab can be opened by following the procedure *"To access a configuration category in the Configuration page"* on page 4 - 12.

- **Cache manager class**: This parameter allows you to override the cache management Java class by a class of your own in case of file cache type set in the *Cache* page of the Administration Console.

Beware that this option has to be used by very advanced users, or on the advice of the Convertigo team. Otherwise, this could lead to a non-functioning cache feature.

- **File cache directory**: This parameter defines the folder where cache files have to be

saved, in the case of file cache type set in the *Cache* page of the Administration Console.

Two cache types can be chosen, file or database. For more information on the Cache page of the Administration Console, see "Cache" on page 4-38.

- **Cache scan delay (in seconds)**: This parameter defines the time in seconds to wait between two cache cleaning processes. It is taken into account for both file and database cache types.

Cache cleaning process is the deletion of expired cache entries, found using the expiry date of the cache entry.

- **Disable Cache**: This option, when activated, deactivates cache feature for the whole server. The running projects can then be tested out of any cache environment.

4.2.14 Legacy Carioca portal

Edit the Carioca portal parameters in *Legacy Carioca portal* tab. This tab can be opened by following the procedure *"To access a configuration category in the Configuration page"* on page 4 - 12.

- **Default user name** and **Default user password**: These parameters define the default credentials used by Convertigo when no Carioca portal is used for accessing to projects.

*This property is used in relation with the **Carioca access URL** property, when set to the local **minime**.*
*See **Carioca access URL** property description for more information.*

- **Default session key life time (in seconds)**: This property defines the time of living of a Carioca session key, in seconds.

The session key is sent by Carioca portal to authenticate a request made by an authenticated user, and is validated by Convertigo to define the validity of a received request, in the time of validity of this session key.

- **Carioca access URL**: This property defines the URL of the Carioca portal used to access to Convertigo. By default, it is set to the local ***minime***, which is a local mini-Carioca portal used when no Carioca portal is used for accessing to projects.

4.2.15 Analytics

Enable the analytics feature in *Analytics* tab. This tab can be opened by following the procedure *"To access a configuration category in the Configuration page"* on page 4 - 12.

This tab includes an Advanced properties section that can be opened by following the procedure *"To access the advanced properties of a configuration category"* on page 4 - 13. In the Advanced properties section, configure the advanced parameters of the analytics feature,

i.e. all properties defining the database into which the tickets are stored.

- Properties
- Advanced properties

PROPERTIES

- **Enable analytics**: This option, when checked, enables the analytics feature in Convertigo Server.

*The analytics feature in Convertigo server consists in writing in a database one entry, also known as **ticket**, for each executed transaction or sequence, including its name, relative information, as well as a "**score**" calculated depending on the connector type. For more information on the analytics feature, see the appendix "Analytics in Convertigo Server" on page A - 16.*
*Technically, Convertigo uses **Hibernate** (version 4.3) to connect to this database. The following properties, that allow configuring the connection to the analytics database, are based on Hibernate configuration.*
*For more information, see the Hibernate documentation at: **http://docs.jboss.org/hibernate/orm/4.3/devguide/en-US/html/ch01.html***

ADVANCED PROPERTIES

- **SQL Dialect**: This parameter defines the `Hibernate SQL Dialect` to use to optimize SQL requests to the analitycs database with correct syntaxes.

*For more information on the Hibernate Dialects, see the Hibernate documentation at: **http://docs.jboss.org/hibernate/orm/4.3/devguide/en-US/html/ch01.html#configuring-dialects***

- **JDBC driver**: This parameter defines the JDBC driver to use for connecting to the analytics database. Any driver already existing in Convertigo for SQL connector can be used, until it corresponds to the defined `Dialect`. You can refer to appendix *"SQL drivers and related jar files"* on page A - 18 or to the *SQL connector* documentation in the *Reference Manual* for more information about existing drivers.

Other drivers than those existing for SQL connector may be used. They only have to be installed in Convertigo before use.
Request for Convertigo support for installing a new SQL driver in Convertigo.

- **JDBC URL**: This parameter defines the JDBC URL to use for connecting to the analytics database. The URL depends on the specified driver. You can refer to appendix *"SQL drivers and related jar files"* on page A - 18 for more information about existing drivers and to the *SQL connector* documentation in the *Reference Manual* for more information about existing drivers and related connection URLs.
- **JDBC username** and **JDBC password**: These parameters define the username and password to use for connecting to the analytics database.

For more information on the Hibernate JDBC configuration, see the Hibernate documentation at: ***http://docs.jboss.org/hibernate/orm/4.3/devguide/en-US/html/ch01.html#hibernate-jdbc-properties***

4.2.16 Notifications

Enable the notifications feature in *Notifications* tab. This tab can be opened by following the procedure *"To access a configuration category in the Configuration page"* on page 4 - 12.

This tab includes an Advanced properties section that can be opened by following the procedure *"To access the advanced properties of a configuration category"* on page 4 - 13. In the Advanced properties section, configure the advanced parameters of the notifications feature.

- Properties
- Advanced properties

PROPERTIES

- **Notify project deployement**: This option, when checked, enables the notification by email of information about projects deployement on the Convertigo Server.

Beware that checking this option requires filling the Advanced properties.

ADVANCED PROPERTIES

- **Target email**: this property defines the email address to which notifications will be sent.
- **STMP host**: this property defines the SMTP host of target email.
- **STMP port**: this property defines the SMTP port of target email, default is 465.
- **STMP user**: this property defines the SMTP username of target email.
- **STMP password**: this property defines the SMTP password of target email.

4.2.17 Mobile builder

Edit the mobile builder parameters in *Mobile builder* tab. This tab can be opened by following the procedure *"To access a configuration category in the Configuration page"* on page 4 - 12.

This tab includes an Advanced properties section that can be opened by following the procedure *"To access the advanced properties of a configuration category"* on page 4 - 13. In the Advanced properties section, configure the advanced parameters of the mobile builder feature.

- Properties
- Advanced properties

PROPERTIES

- **Mobile builder authentication token**: This property defines the authentication token of

the Mobile builder account to use to build the mobile application. The Mobile builder account is nothing more than a PhoneGap build account. It is referenced now by an authentication token. When building a mobile application, a Mobile builder account (PhoneGap build account) is mandatory. Convertigo provides one by default, used by default in Convertigo engine. This **Mobile builder authentication token** property allows you to define your own Mobile builder authentication token. It will be used by default for all mobile applications built by the Convertigo. It can still be overridden by the **Mobile builder authentication token** property in each *Mobile application* object in Convertigo projects.

The Convertigo mobile builder platform performs mobile application build thanks to PhoneGap build platform. Once a PhoneGap build account is configured thanks to the Mobile builder authentication token, do not forget to configure all mobile platforms certificates and keys in accordance. Find below the documentation of properties that need to be filled for mobile platforms certificates and keys.

- **Android certificate title**, **Android certificate password** and **Android keyStore password**: These properties define the Android certificate to use for building Android mobile applications. When building a mobile application for Android platform, an Android certificate (including title and password) is mandatory. When using default Convertigo's Mobile builder account, Convertigo's Android certificate is used. When using your own Mobile builder account, default PhoneGap Android certificate is used. These **Android certificate title**, **Android certificate password** and **Android keyStore password** properties allow to override the defaults Android certificate title, password and keystore password. They will be used by default for all Android mobile applications built by the Convertigo. They can still be overridden by the **Android certificate title**, **Android certificate password** and **Android keyStore password** properties in each *Android mobile platform* object in Convertigo projects.

*The Android certificate is linked to the PhoneGap build account. Be aware to configure the **Mobile builder authentication token** and the **Android certificate** accordingly: the **Android certificate** must be one of the "Signing keys" declared in the PhoneGap build account.*

- **BlackBerry key title** and **BlackBerry key password**: These properties define the BlackBerry key to use for building BlackBerry mobile applications. When building a mobile application for BlackBerry platform, a BlackBerry key (including title and password) is mandatory. When using default Convertigo's Mobile builder account, Convertigo's BlackBerry key is used. When using your own Mobile builder account, default PhoneGap BlackBerry key is used. These **BlackBerry key title** and **BlackBerry key password** properties allow to override the defaults BlackBerry key title and password. They will be used by default for all BlackBerry mobile applications built by the Convertigo. They can still be overridden by the **BlackBerry key title** and **BlackBerry key password** properties in each *BlackBerry mobile platform* object in Convertigo projects.

*The BlackBerry key is linked to the PhoneGap build account. Be aware to configure the **Mobile builder authentication token** and the **BlackBerry key** accordingly: the **BlackBerry key** must be one of the "Signing keys" declared in the PhoneGap build account.*

- **iOS certificate title** and **iOS certificate password**: These properties define the iOS certificate to use for building iOS mobile applications. When building a mobile application for iOS platform, an iOS certificate (including title and password) is mandatory. When using default Convertigo's Mobile builder account, Convertigo's iOS certificate is used. When using your own Mobile builder account, default PhoneGap iOS certificate is used. These **iOS certificate title** and **iOS certificate password** properties allow to override the defaults iOS certificate title and password. They will be used by default for all iOS mobile applications built by the Convertigo. They can still be overridden by the **iOS certificate title** and **iOS certificate password** properties in each *iOS mobile platform* object in Convertigo projects.

*The iOS certificate is linked to the PhoneGap build account. Be aware to configure the **Mobile builder authentication token** and the **iOS certificate** accordingly: the **iOS certificate** must be one of the "Signing keys" declared in the PhoneGap build account.*

- **Window Phone publisher ID title**: This property defines the Windows Phone publisher ID to use for building Windows Phone mobile applications. When building a mobile application for Windows Phone platform, a Windows Phone publisher ID (including its title) is mandatory. When using default Convertigo's Mobile builder account, Convertigo's Windows Phone publisher ID is used. When using your own Mobile builder account, default PhoneGap Windows Phone publisher ID is used. This **Window Phone publisher ID title** property allows to override the defaults Window Phone publisher ID title. It will be used by default for all Window Phone mobile applications built by the Convertigo. They can still be overridden by the **Window Phone publisher ID title** property in each *Window Phone mobile platform* object in Convertigo projects.

*The Windows Phone publisher ID is linked to the PhoneGap build account. Be aware to configure the **Mobile builder authentication token** and the **Windows Phone publisher ID** accordingly: the **Windows Phone publisher ID** must be one of the "Signing keys" declared in the PhoneGap build account.*

ADVANCED PROPERTIES

- **Mobile builder platform URL**: This property defines the URL of the Convertigo mobile builder platform to use when building the mobile applications. This platform is delivered by Convertigo and should not be modified.

Beware that this option has to be used by very advanced users, or on the advice of the Convertigo team. Otherwise, this could lead to a non-functioning mobile builder feature.

4.3 Connections

The *Left menu* contains a link to the *Connections* page. This page displays all of your running connections on the Convertigo Server in real-time.

More information on *Connections* page is coming soon.

4.4 Projects

The *Left menu* contains a link to the *Projects* page. This page contains information related to the projects currently deployed on the Convertigo Server.

More information on *Projects* page is coming soon.

4.5 Certificates

The *Left menu* contains a link to the *Certificates* page. This page provides information about adding, deleting and reviewing authentication certificates.

More information on *Certificates* page is coming soon.

4.6 Logs

The *Left menu* contains a link to the *Logs* page. This page provides traces of Convertigo engine executions, updated in real-time.

More information on *Logs* page is coming soon.

4.7 Trace Player

The *Left menu* contains a link to the *Trace player* page. This page displays the saved Legacy screens traces and permits you to configure the playing of these traces.

More information on the *Traces player* page is coming soon.

4.8 Cache

The *Left menu* contains a link to the *Cache* page. This page allows you to configure the cache feature.

More information on the *Cache* page is coming soon.

4.9 Scheduler

The *Left menu* contains a link to the *Scheduler* page. This page gives you the tools to schedule automatic executions of transactions and/or sequences.

This section introduces the *Scheduler* page and details the different elements of the scheduling functionality:

- Scheduler page
- Jobs table
- Schedules table
- Scheduled Jobs table

4.9.1 Scheduler page

Navigate the *Left menu* using the link to the *Scheduler* page. For an example on how to navigate the *Left menu*, see *"To access Configuration page in the Administration Console"* on page 4-9.

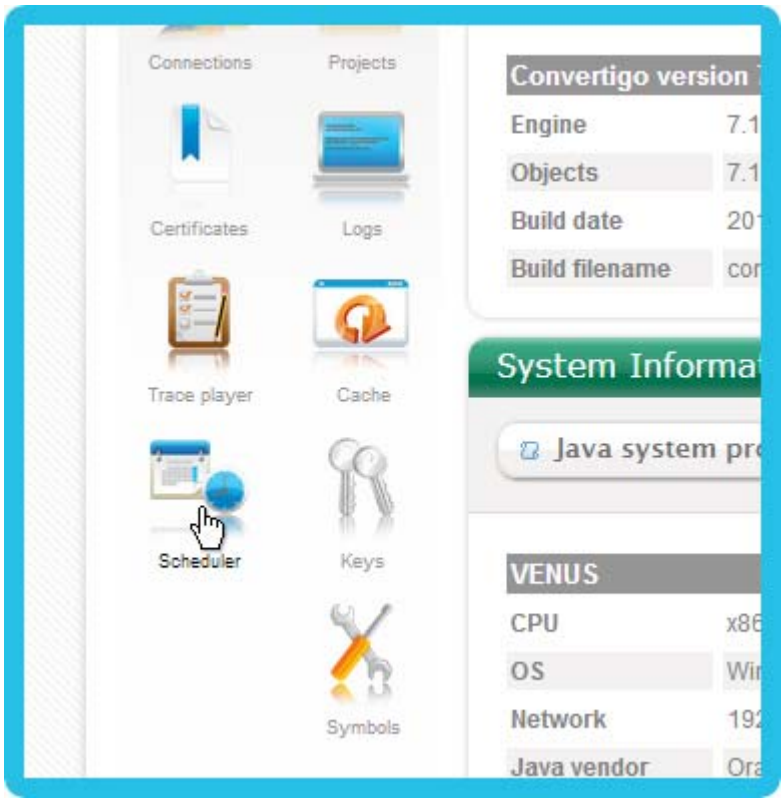


Figure 4 - 20: Accessing Scheduler page

The *Scheduler* page contains three individual tables:

- *Jobs*,
- *Schedules*,
- *Scheduled Jobs*.

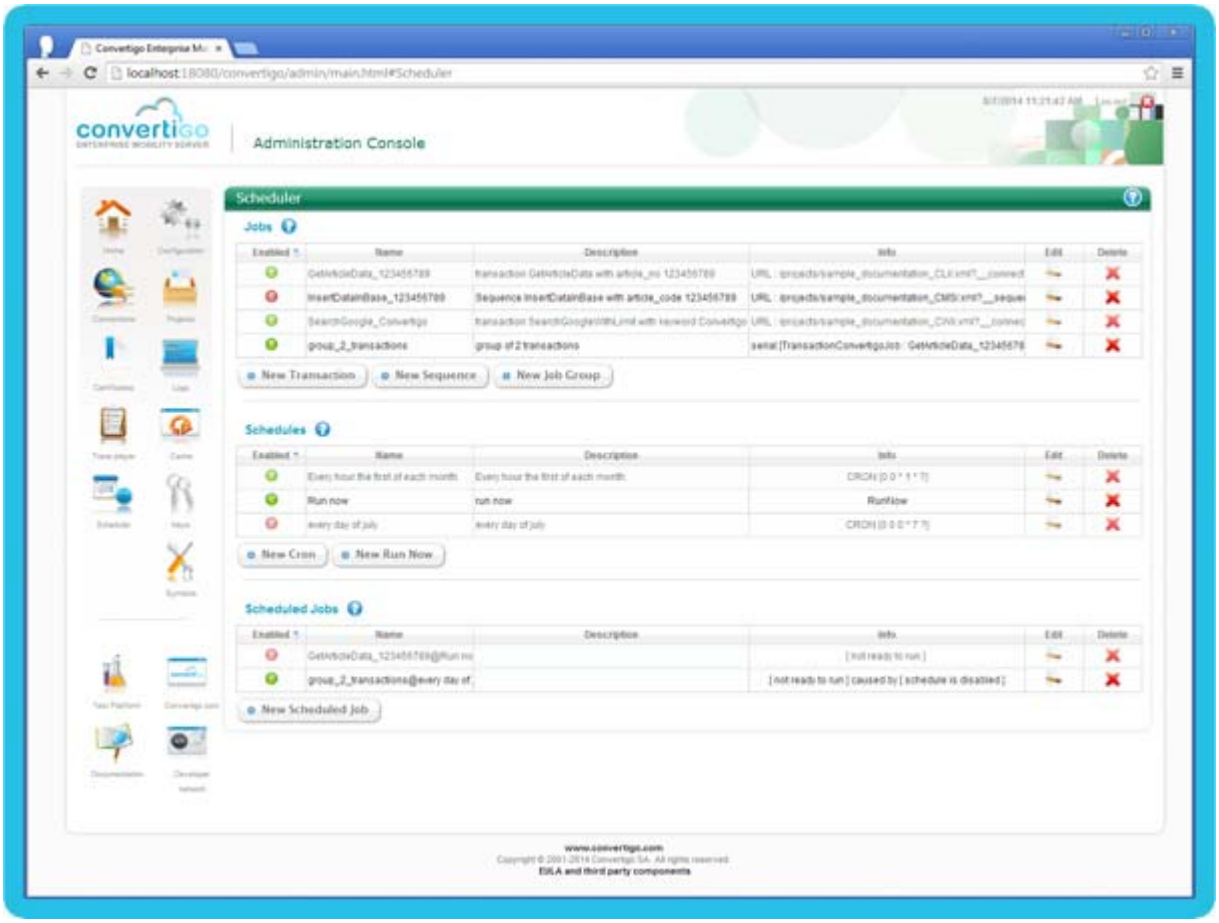


Figure 4 - 21: Administration Console Scheduler page

Scheduling a Convertigo sequence or transaction execution consists in creating a scheduled job, which results in the association of a job, also known as task, and a schedule, also known as a time trigger.

WHAT'S NEXT

The following sections present in details the three tables on the *Scheduler* page which are the tools to create jobs, schedules and scheduled jobs.

4.9.2 Jobs table

The *Jobs* table lists the existing jobs. A job, also known as task, specifies the object to be executed. It can be a Convertigo transaction, a sequence, or a group of other jobs.

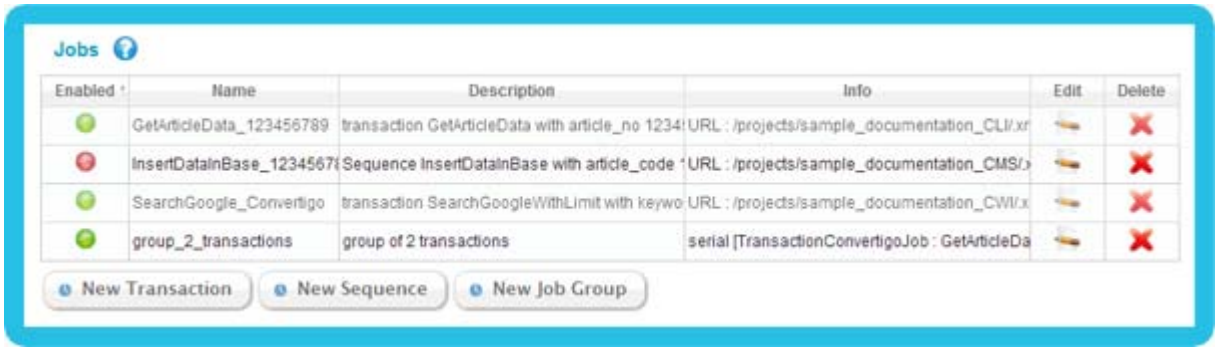


Figure 4 - 22: Jobs table

This section is separated in the following paragraphs:

DESCRIPTION OF THE JOBS TABLE

For each job, the *Jobs* table includes the following columns:

- **Enabled**: This column displays a green bullet if the job is enabled and a red bullet if the job is disabled. Only enabled jobs can be executed by a scheduled job. Disabled jobs will not be executed, even if used in an enabled scheduled job.

Figure 4 - 23: Jobs table Enabled column

You can change a job's state (enable or disable it) by editing the job. For more information on job edition, see "Editing a job" on page 4-50.

- **Name**: This is the name of the created job, filled by the user at its creation.

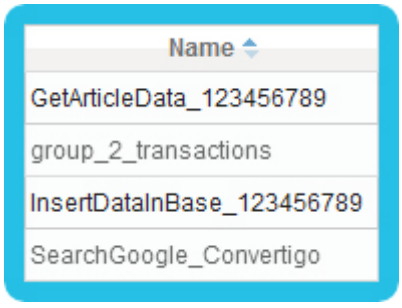


Figure 4 - 24: Jobs table Name column

- **Description**: This is the description of the created job, filled by the user at its creation.

Figure 4 - 25: Jobs table Description column

- **Info**: This column displays:
  - the execution URL automatically generated from the configured transaction/sequence, in case of a job executing a transaction/sequence,
  - the type of execution (parrallel/serial) as well as the several jobs that are grouped, including their type (transaction/sequence), in case of a group of jobs.

Figure 4 - 26: Jobs table Info column

- **Edit**: This column contains a button that allows you to edit the job. For more information on job edition, see *"Editing a job"* on page 4-50.
- **Delete**: This column contains a button  that allows you to delete the job. For more information on job deletion, see *"Deleting a job"* on page 4-52.

CREATING A NEW JOB

The *Jobs* table allows you to create a new job, first step for creating a scheduled job. It can be a Convertigo transaction or sequence, which can be created in a common way, or a group of other jobs.

Find below two procedures that describe how to create both types of job.

To create a job (transaction or sequence)

1 Click one of the following buttons located beneath the *Jobs* table:

- **New Transaction**: to schedule a transaction execution,
- **New Sequence**: to schedule a sequence execution.

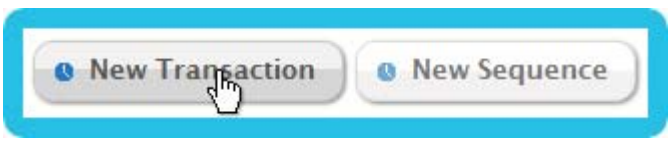


Figure 4 - 27: Transaction/sequence job creation buttons

Once clicked, a window appears in front of the page, depending on the chosen item:

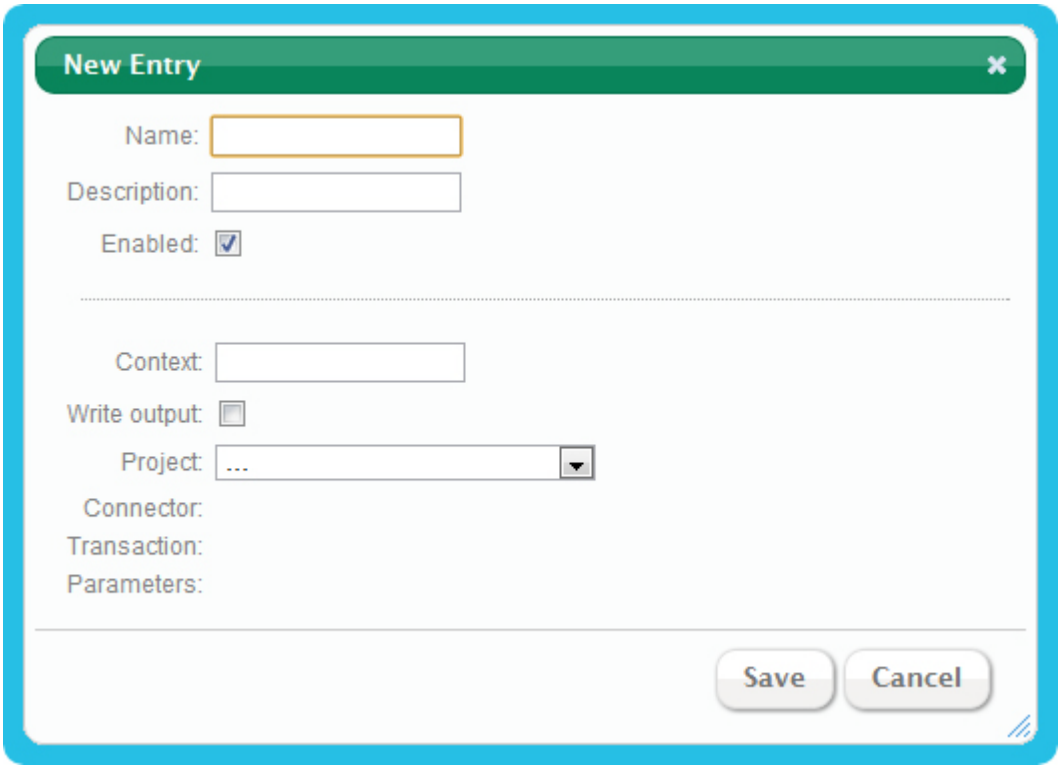


Figure 4 - 28: New job entry - transaction case

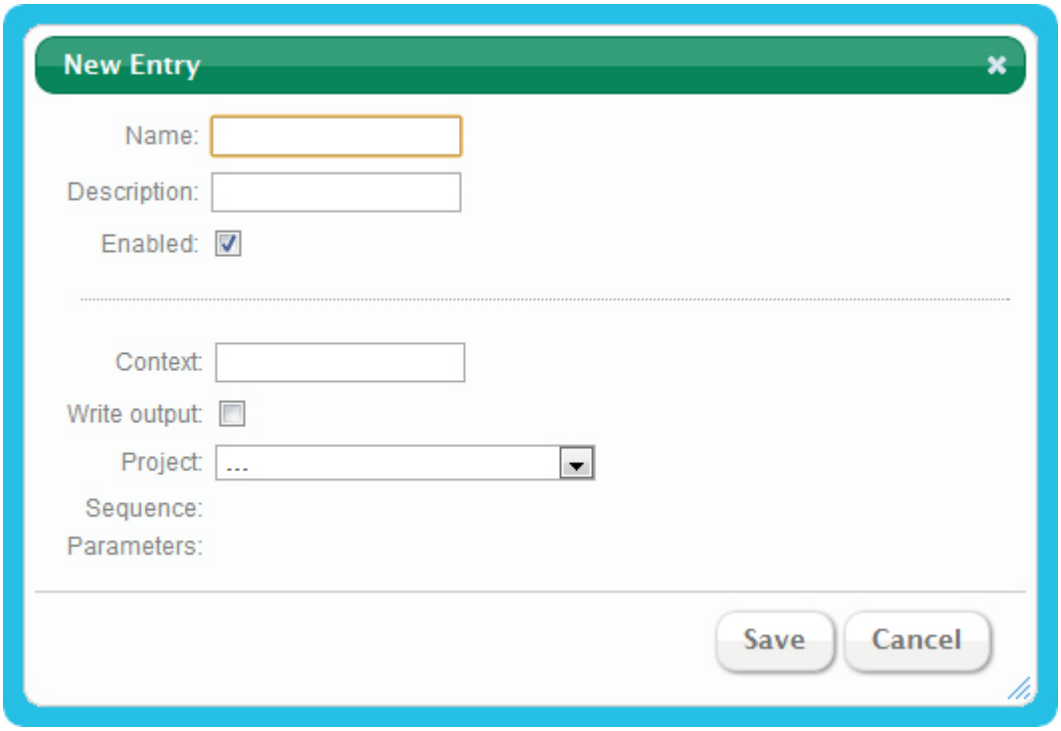


Figure 4 - 29: New job entry - sequence case

2 Depending on the type of job selected, you have to fill in some information to define the job. Parameters to set are:

- **Name**: A name for this job, as jobs are used in the *Scheduled Jobs* table, it is recommended to give recognizable names to jobs.

- **Description**: An optional description or notes concerning the job.
- **Enabled**: Checkbox that allows you to define if the job is `enabled` (checked checkbox) or `disabeld` (not checked checkbox). Only enabled jobs can be executed by a scheduled job. Disabled jobs will not be executed, even if used in an enabled scheduled job. This setting is by default set to `enabled`.
- **Context**: An optional name for the Convertigo context into which the transaction/sequence will run. This name will replace the '`default`' default context name.
- **Write output**: If checked, the XML output of the transaction/sequence will be saved in a file in the Convertigo logs directory after the task is finished. Otherwise, no execution result will be saved (except traces in logs). This setting is not checked by default.
- **Project**: This combo box lists all deployed projects in the Convertigo Server. Choose the project to use for the job (into which you want to pick a transaction/sequence).
- **Connector**: (for transaction jobs only) Once a project is selected, this combo box lists all available connectors. Select the required connector to use for the job (into which you want to pick a transaction).
- **Transaction**: (for transaction jobs only) Once the project and the connector are selected, this combo box lists all available transactions. Select the transaction to use for the job, i.e. the transaction to be executed.
- **Sequence**: (for sequence jobs only) Once a project is selected, this combo box lists all available sequences. Select the required sequence to use for the job, i.e. the sequence to be executed.
- **Parameters**: Once a transaction or a sequence has been selected, its input variables are listed here along with their default values in a table with the following columns:
  - **Name**: Name of the input variable.
  - **Value**: Default variable value. This value can be changed here and will be used if the **Send** checkbox is checked.
  - **Description**: Variable description.
  - **Send**: Check this checkbox if you want to use the modified variable value for this variable. Otherwise, the variable value will not be sent and the default value will be used.

Depending on the job type, you have for example:

- an enabled transaction job is created to execute the `searchGoogleWithLimit` transaction from the `GoogleConnector` connector of the `sample_documentation_CWI` project, including an updated value for the `keyword` variable, set to "Convertigo", and writing the XML output in a file thanks to the **Write output** setting:

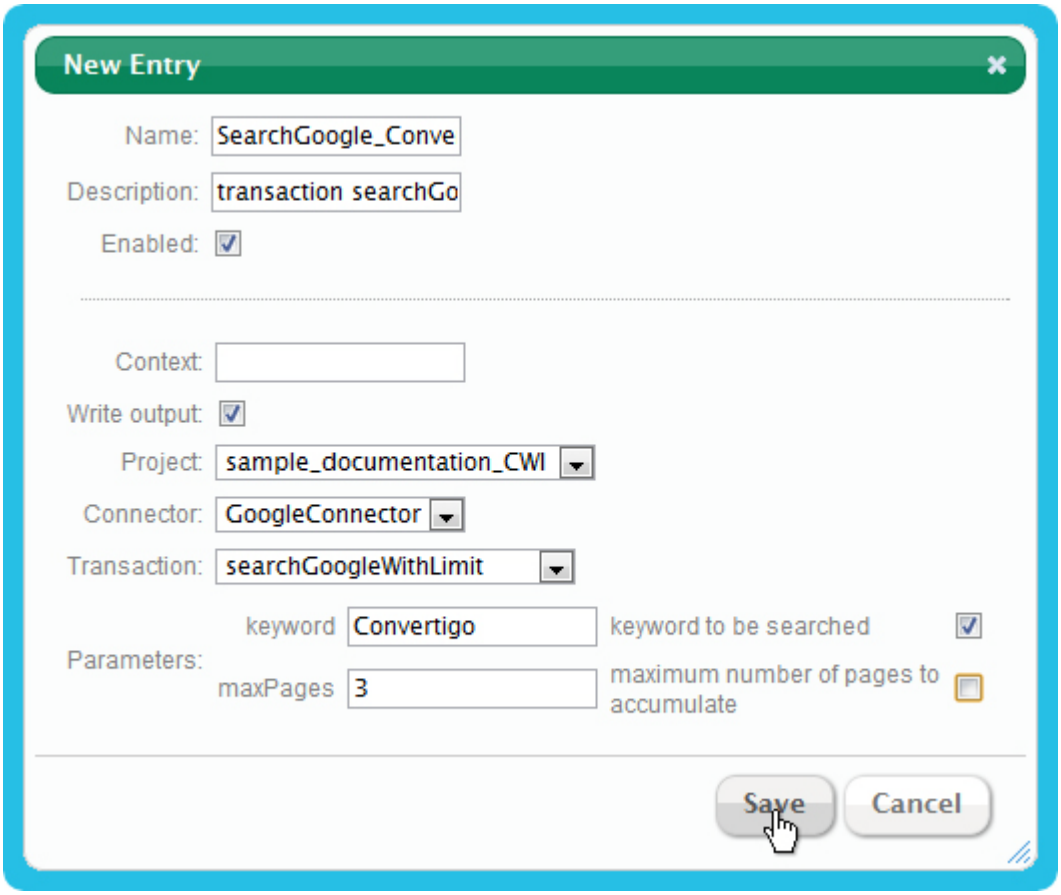


Figure 4 - 30: Configuring and saving a new transaction job

- an enabled sequence job is created to execute the `GetXMLData` sequence from the `sample_documentation_CMS` project, including an updated value for the `article_code` variable, set to "123456789", and writing the XML output in a file thanks to the **Write output** setting:

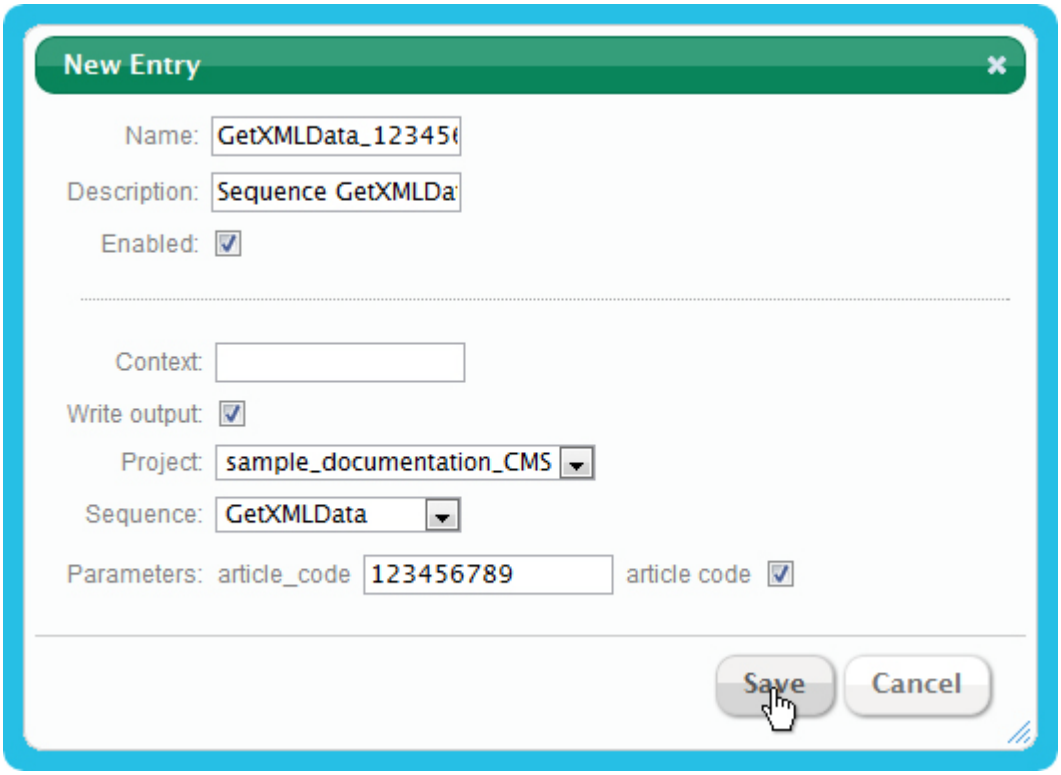


Figure 4 - 31: Configuring and saving a new sequence job

3 When you finish specifying the job, click on the **Save** button to create it.

A message window appears to inform that the object was correctly saved:

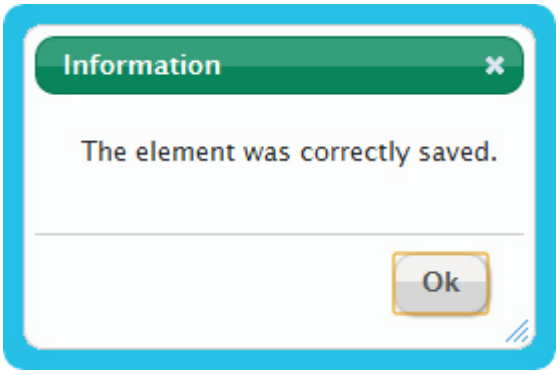


Figure 4 - 32: New job created

4 Click on the **Ok** button to close the popup window. The new job appears in the *Jobs* table:

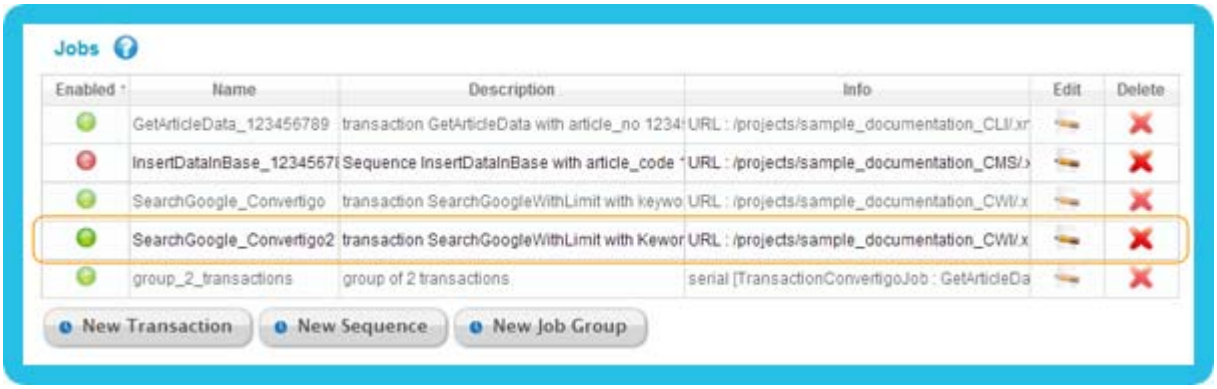


Figure 4 - 33: Jobs table with the new transaction job

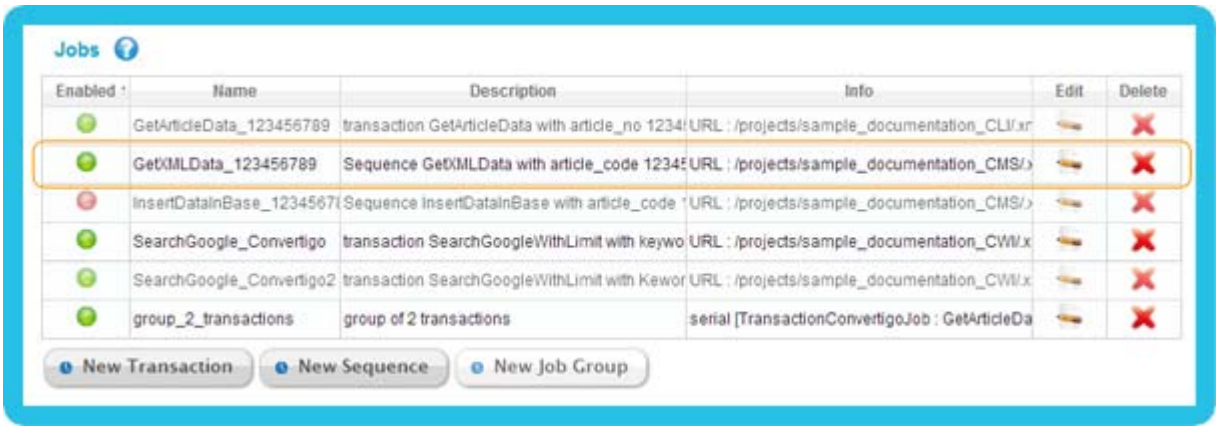


Figure 4 - 34: Jobs table with the new sequence job

To create a job group

1 Click the **New Job Group** button located beneath the *Jobs* table, to schedule a group of jobs containing several transactions or sequences.

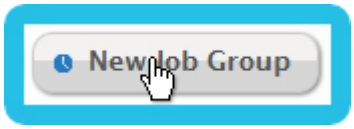


Figure 4 - 35: Job group creation button

Once clicked, a window appears in front of the Administration Console:

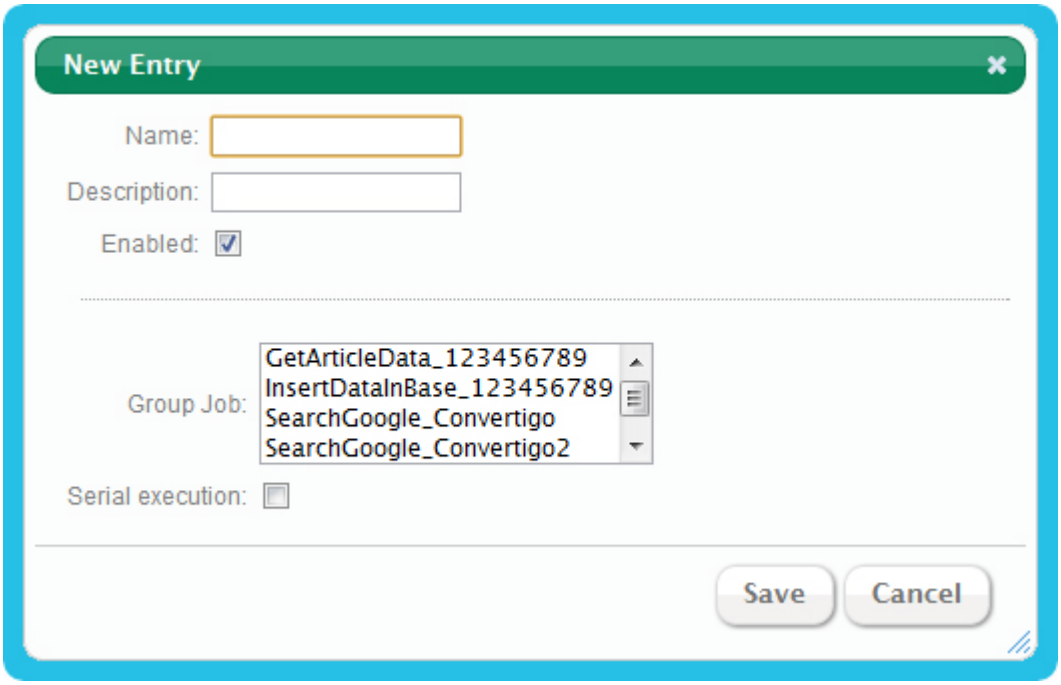


Figure 4 - 36: New job entry - job group case

2 You have to fill in some information to define the job. Parameters to set are:

- **Name**: A name for this job, as jobs are used in the *Scheduled Jobs* table, it is recommended to give recognizable names to jobs.
- **Description**: An optional description or notes concerning the job.
- **Enabled**: Checkbox that allows you to define if the job is `enabled` (checked checkbox) or `disabeld` (not checked checkbox). Only enabled jobs can be executed by a scheduled job. Disabled jobs will not be executed, even if used in an enabled scheduled job. This setting is by default set to `enabled`.
- **Group Job**: This list enumerates all available transaction/sequence jobs from the Jobs table. Select the jobs to group together in this job group.
- **Serial execution**: Check this checkbox if you want to execute the chosen transaction/sequence jobs in sequence. Otherwise, they will be executed in parrallel, which is the default value.

For example here, a 2-sequences group job is created to execute the `GetXMLData_123456789` sequence job and the `InsertDataInBase_123456789` sequence job in parrallel as the **Serial execution** checkbox is not checked:

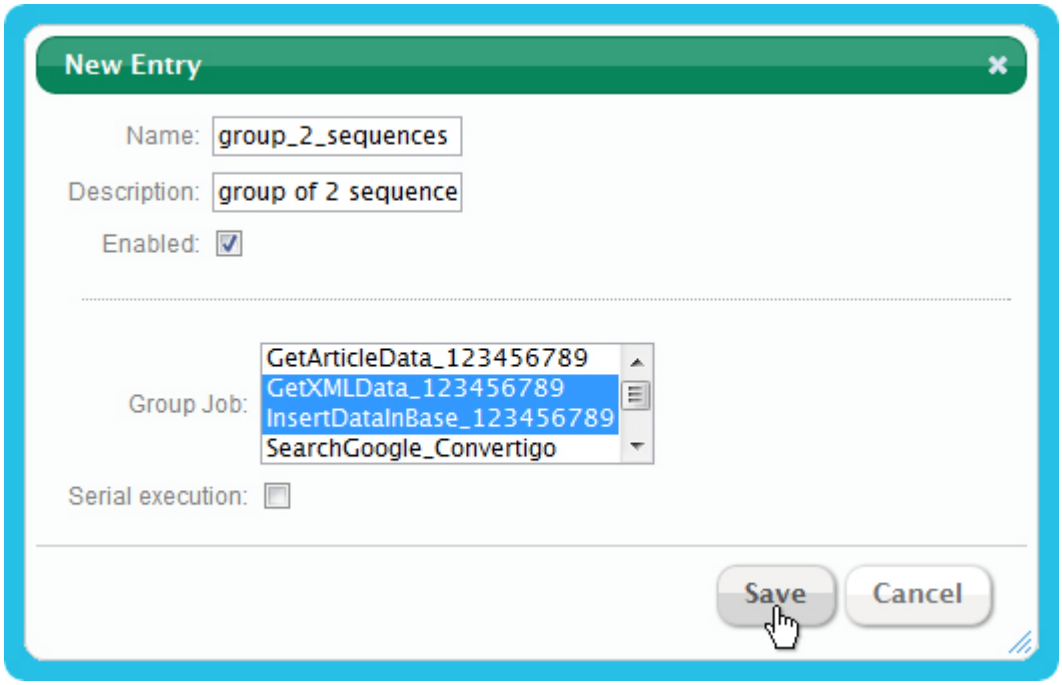


Figure 4 - 37: Configuring and saving a new group job

3 When you finish specifying the job, click on the **Save** button to create it.

A message window appears to inform that the object was correctly saved:

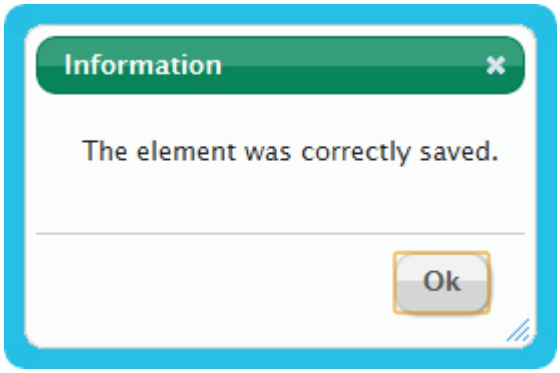


Figure 4 - 38: New job created

4 Click on the **Ok** button to close the popup window. The new job appears in the *Jobs* table:

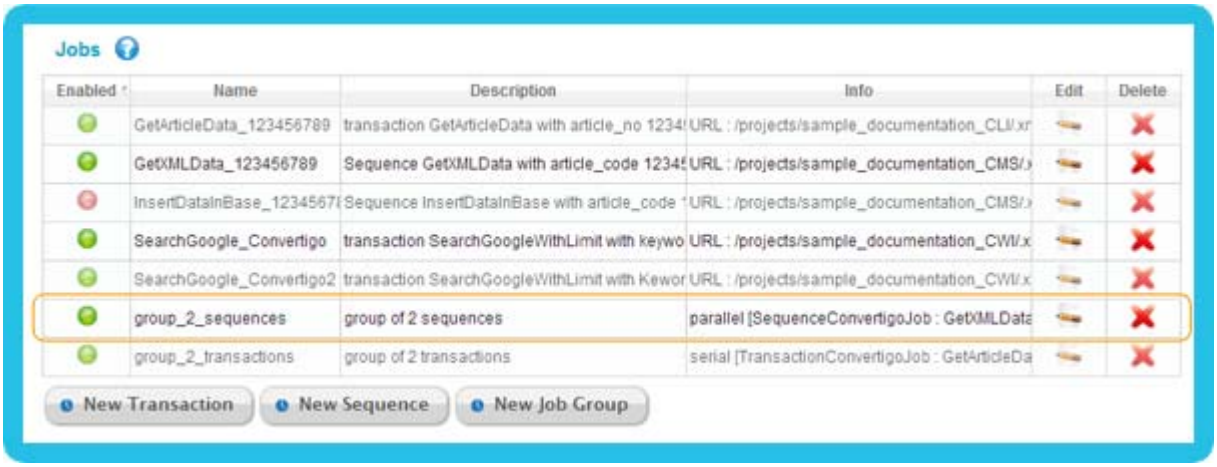


Figure 4 - 39: Jobs table with the new job group

EDITING A JOB

In the *Jobs* table, the **Edit** column contains a button that allows you to edit an existing job.

To edit an existing job

1 Click on the button of the job line:

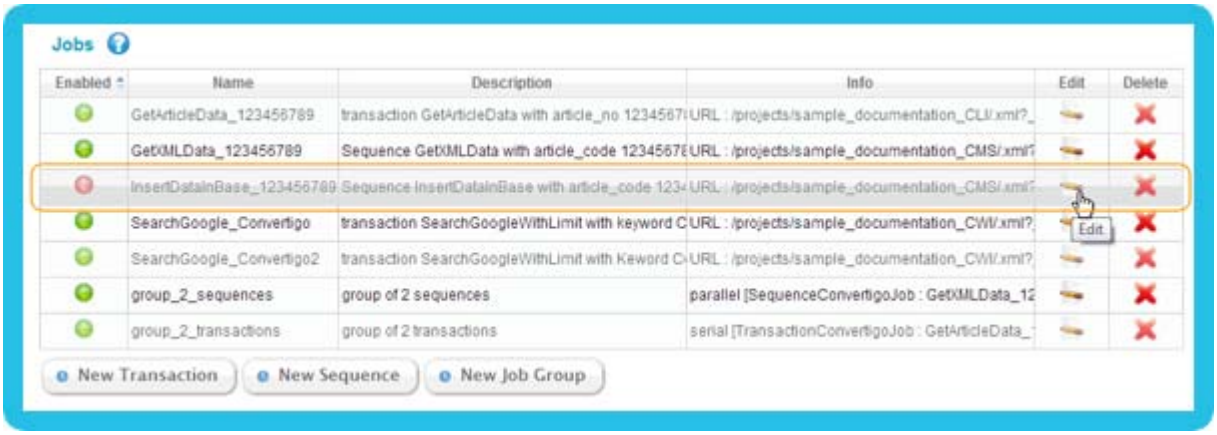


Figure 4 - 40: Editing a job

A popup window opens (here in the case of a sequence job):

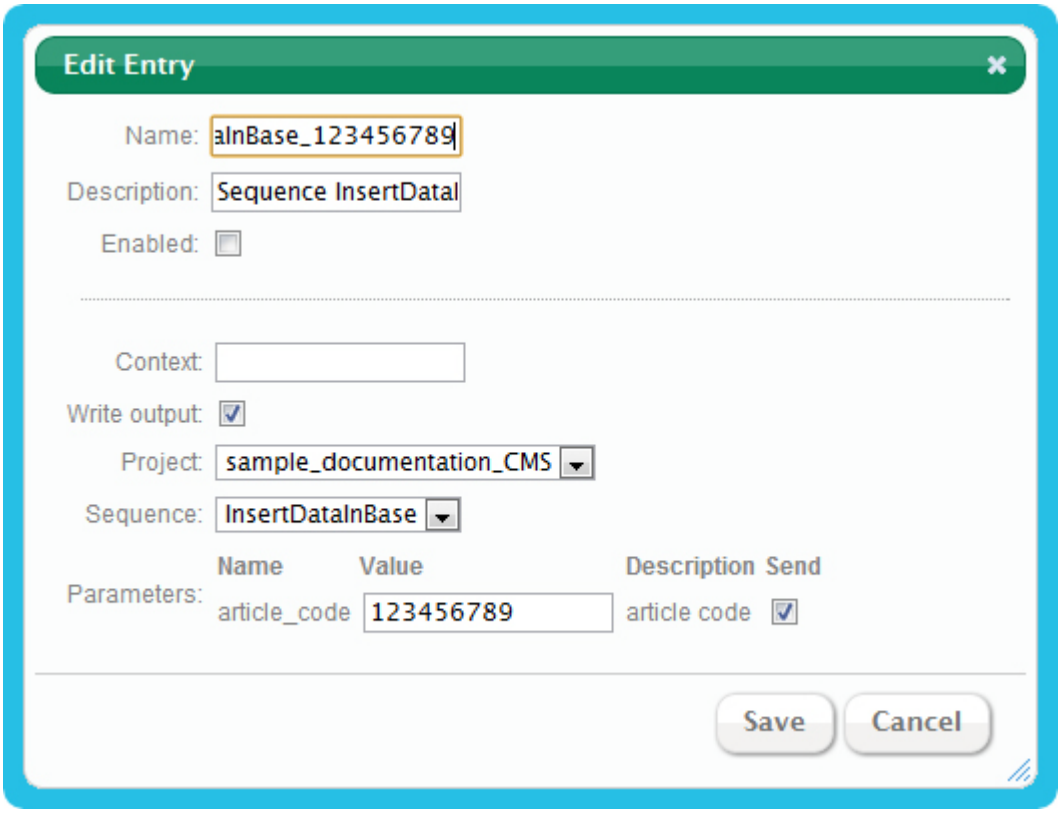


Figure 4 - 41: Job edition

2 Change the values of the job settings you want to edit. For example, enable the job by checking the **Enabled** checkbox:

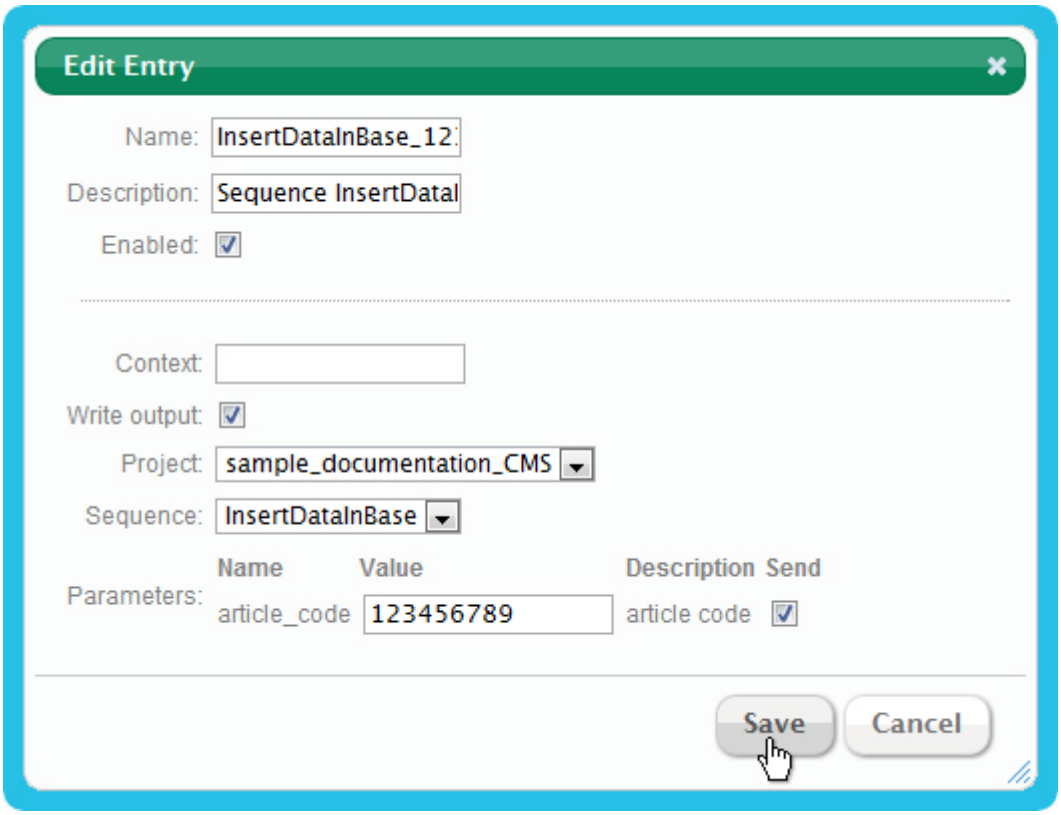


Figure 4 - 42: Edited job

3 Click on the **Save** button to save the updated values or click on the **Cancel** button if you want to cancel the job update.

4 After clicking on the **Save** button, a message window appears to inform that the object was correctly saved:

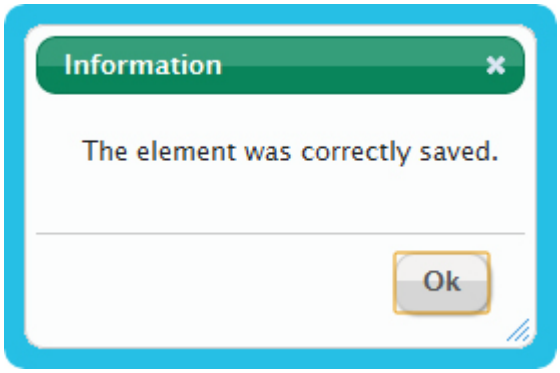


Figure 4 - 43: Job updated

5 Click on the **Ok** button to close the popup window. The updated job appears in the *Jobs* table:

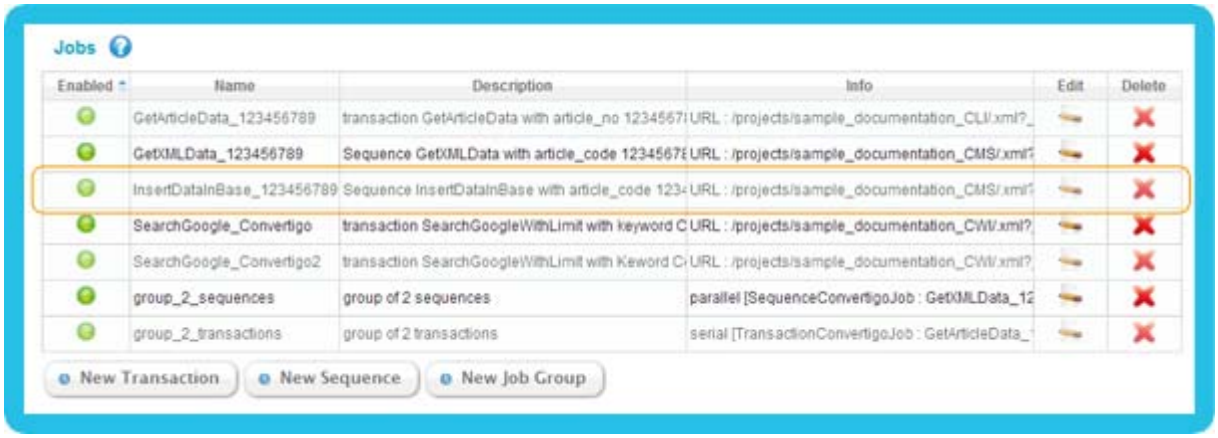


Figure 4 - 44: Jobs table with the edited job

DELETING A JOB

In the *Jobs* table, the **Delete** column contains a button that allows you to delete an existing job.

To delete an existing job

1 Click on the  button of the job line:

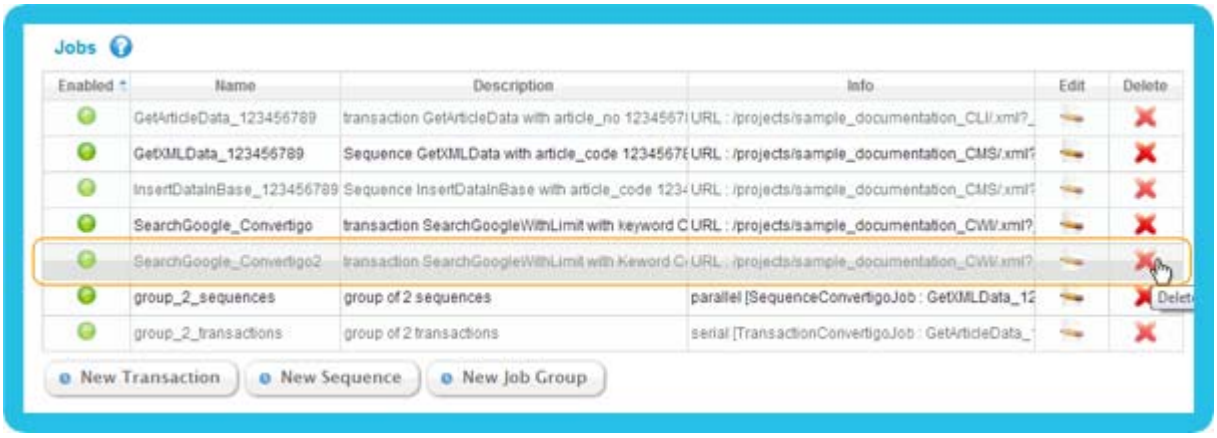


Figure 4 - 45: Deleting a job

A popup window opens, asking for a confirmation before deleting the job:

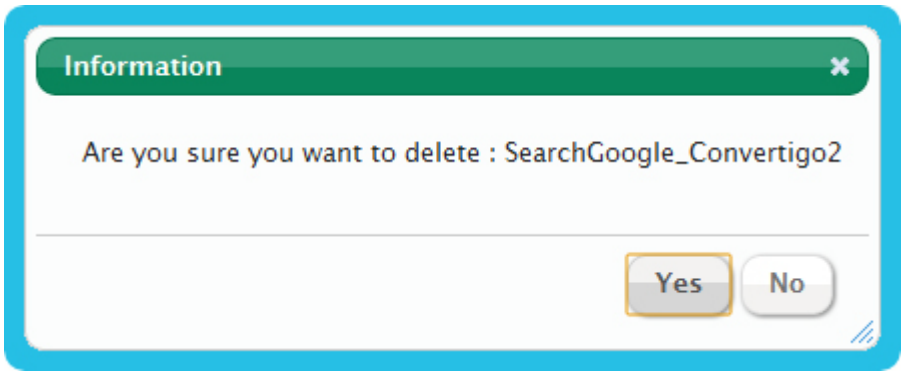


Figure 4 - 46: Job deletion confirmation

2 Click on **Yes** to delete the selected job or click on **No** to abort the job deletion.

3 After clicking on the **Yes** button, the job is deleted from the *Jobs* table:

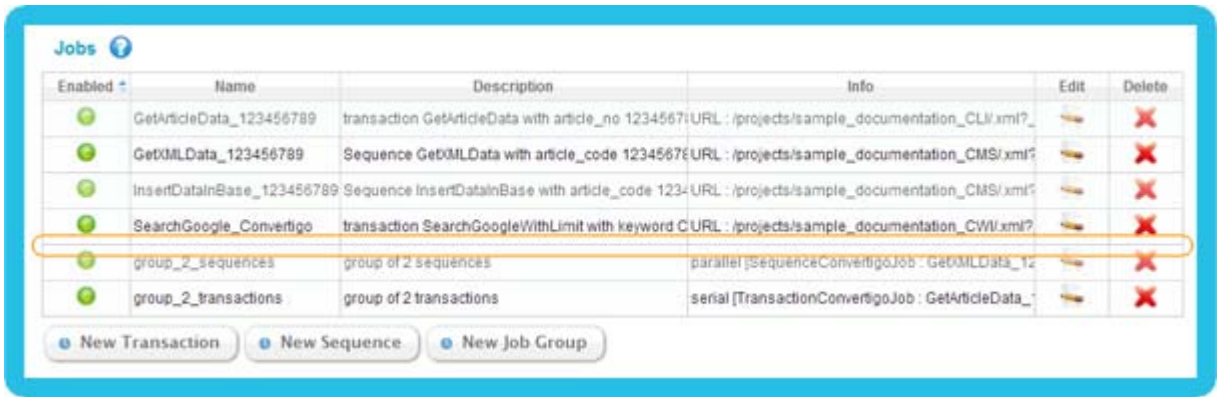


Figure 4 - 47: Jobs table without the deleted job

WHAT'S NEXT

Now that the *Jobs* table is fully described, the following section will present the *Schedules* table.

4.9.3 Schedules table

The *Schedules* table lists the existing schedules. A schedule, also known as time trigger,

defines a date, time and reccurrency of triggering for the object to be executed. It can be a `Run Now` trigger or a `CRON` trigger.

Figure 4 - 48: Schedules table

This section is separated in the following paragraphs:

- Description of the Schedules table
- Creating a new schedule
- Editing a schedule
- Deleting a schedule

Description of the Schedules table

For each schedule, the *Schedules* table includes the following columns:

- **Enabled**: This column displays a green bullet if the schedule is enabled and a red bullet if the schedule is disabled. Only enabled schedules are triggered and launch scheduled jobs. Disabled schedules will not be triggered, even if used in an enabled scheduled job.

Figure 4 - 49: Schedules table Enabled column

You can change a schedule's state (enable or disable it) by editing the schedule. For more information on schedule edition, see "Editing a schedule" on page 4-61.

- **Name**: This is the name of the created schedule, filled by the user at its creation.

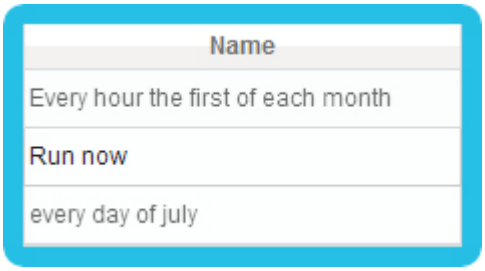


Figure 4 - 50: Schedules table Name column

- **Description**: This is the description of the created schedule, filled by the user at its creation.

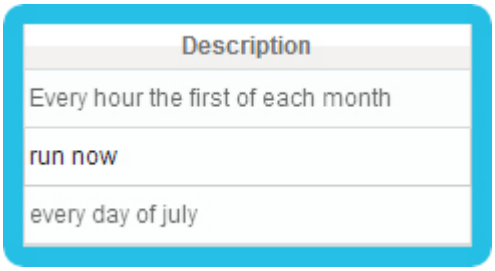


Figure 4 - 51: Schedules table Description column

- **Info**: This column displays:
  - the type of schedule (`RunNow` or `CRON`),
  - the `CRON` syntax, in case of `CRON` schedule.

Figure 4 - 52: Schedules Info column

- **Edit**: This column contains a button that allows you to edit the schedule. For more information on schedule edition, see *"Editing a schedule"* on page 4-61.
- **Delete**: This column contains a button that allows you to delete the schedule. For more information on schedule deletion, see *"Deleting a schedule"* on page 4-63.

CREATING A NEW SCHEDULE

The *Schedules* table allows you to create a new schedule, second step for creating a scheduled job. It can be of two types:

- `CRON`, which permits you to select a date, time and frequency of future job executions,
- `Run Now`, which permits you to run a scheduled job immediately after creation.

Find below two procedures that describe how to create both types of job.

To create a CRON schedule

1 Click the **New CRON** button located beneath the *Schedules* table, to define a CRON schedule.

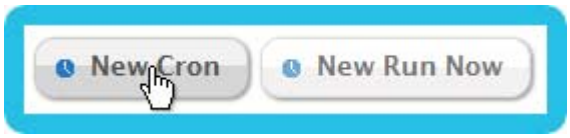


Figure 4 - 53: CRON schedule creation button

Once clicked, a window appears in front of the page:

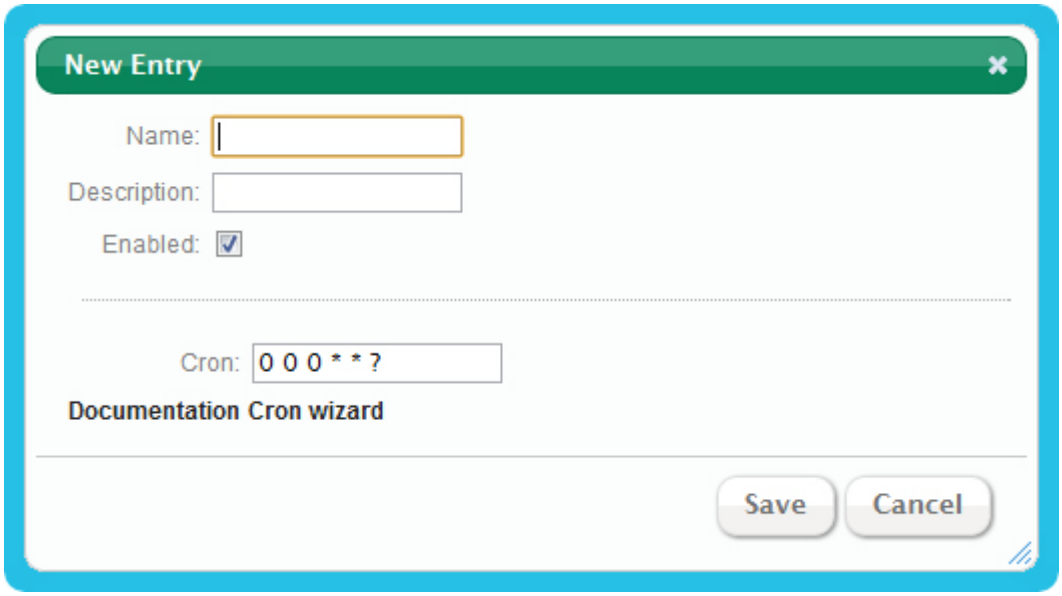


Figure 4 - 54: New schedule entry - CRON case

2 You have to fill in some information to define the `CRON` schedule. Parameters to set are:

- **Name**: A name for this schedule, as schedules are used in the *Scheduled Jobs* table, it is recommended to give recognizable names to schedules.
- **Description**: An optional description or notes concerning the schedule.
- **Enabled**: Checkbox that allows you to define if the schedule is `enabled` (checked checkbox) or `disabled` (not checked checkbox). Only enabled schedules are triggered and launch scheduled jobs. Disabled schedules will not be triggered, even if used in an enabled scheduled job. This setting is by default set to `enabled`.
- **Cron**: The CRON syntax defining a time trigger based upon the linux CRON syntax. CRON schedules can be used to start a job at specific times and dates, or periodically. The complete CRON syntax documentation can be accessed by clicking on the *Documentation* link. A wizard can help you build the CRON syntax, it can be opened by clicking on the *Cron wizard* link:

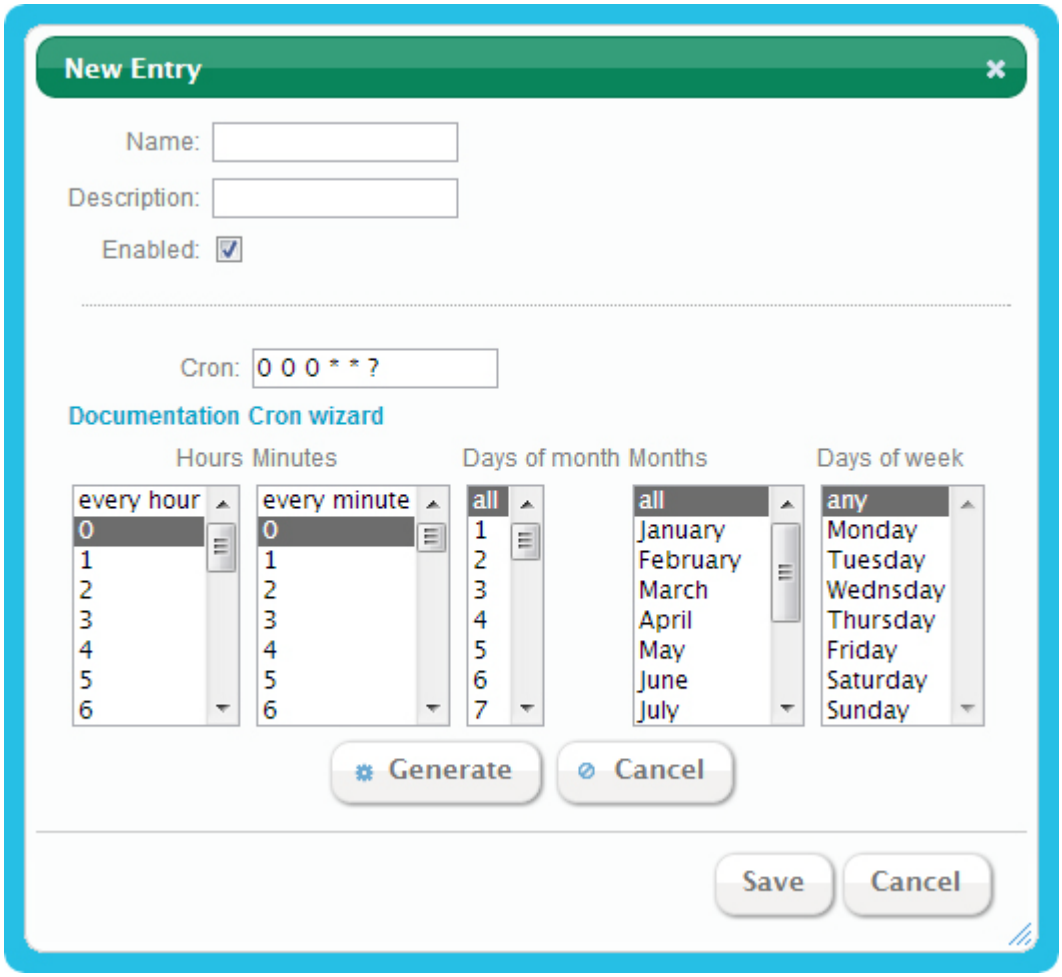


Figure 4 - 55: CRON wizard

In the CRON wizard, you can find several combo list into which you can select entries to build your CRON:

- **Hours**: Select the hour of time when you want the CRON to be triggered or "`every hour`" for it to be triggered every hour.
- **Minutes**: Select the minutes of time when you want the CRON to be triggered or "`every minute`" for it to be triggered every minute of the selected hour(s).
- **Days of month**: Select the days of month when you want the CRON to be triggered or "`all`" for it to be triggered every day of the selected month(s).
- **Months**: Select the months when you want the CRON to be triggered or "`all`" for it to be triggered during all months.
- **Days of week**: Select the days of the week when you want the CRON to be triggered or "`any`" for it to be triggered during all days of the week.

3 When you finish building the CRON thanks to the wizard, click on the **Generate** button for the CRON syntax to be generated in the **Cron** field, or click on the **Cancel** button to close the wizard.

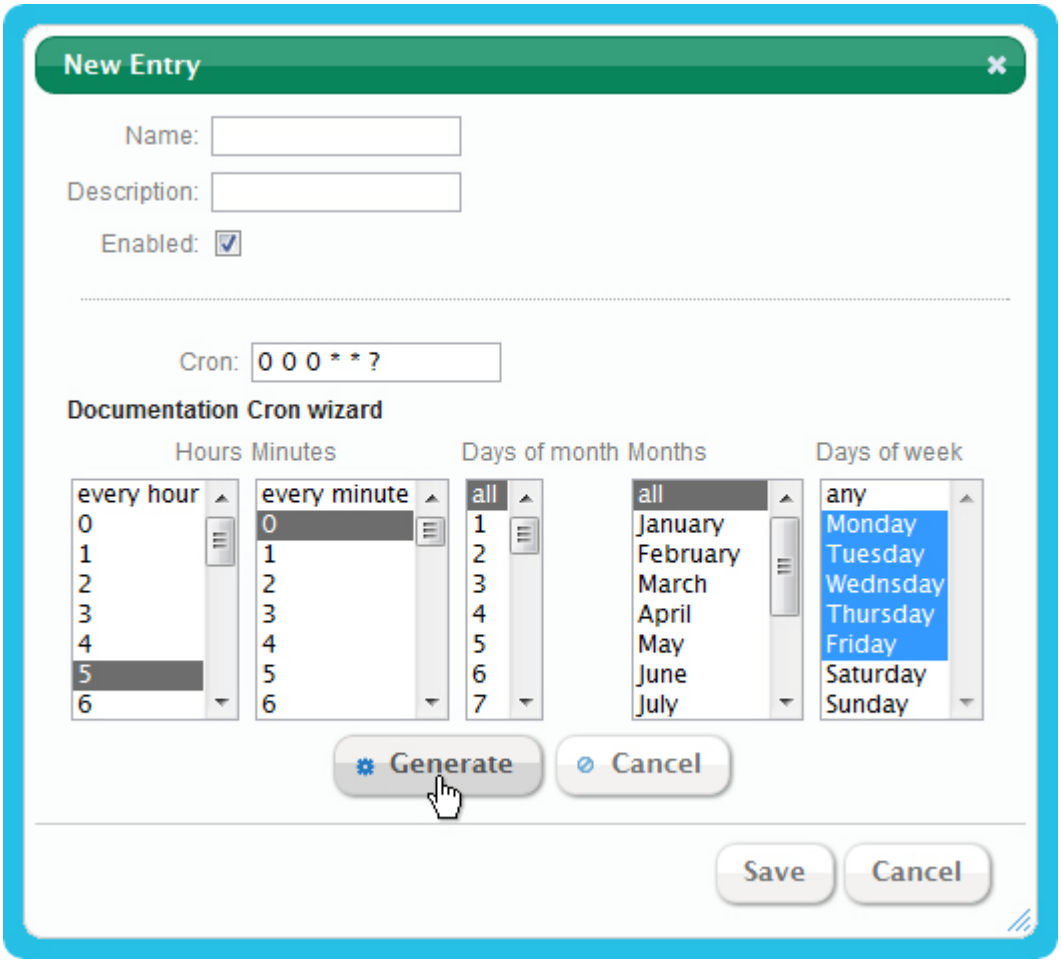


Figure 4 - 56: Using CRON wizard

For example here, the generated `CRON` will be triggered every day of the year, on the working days of weeks, at 5 AM.

4 When you finish specifying the schedule, click on the **Save** button to create it:

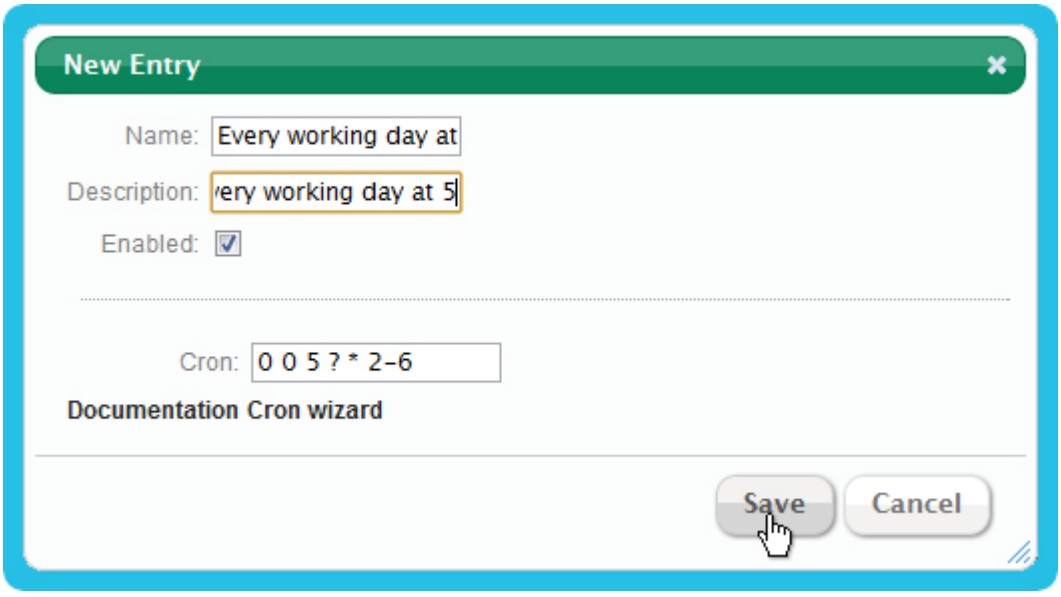


Figure 4 - 57: Saving a new CRON schedule

5 After clicking on the **Save** button, a message window appears to inform that the object was correctly saved:

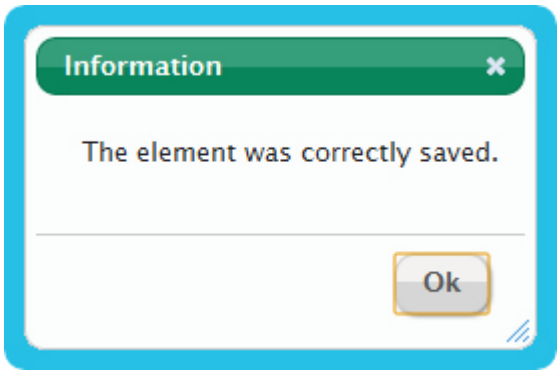


Figure 4 - 58: New schedule created

6 Click on the **Ok** button to close the popup window. The new schedule appears in the *Schedules* table:

Figure 4 - 59: Schedules table with the new schedule

To create a Run Now schedule

1 Click the **New Run Now** button located beneath the *Schedules* table, to define a Run Now schedule.

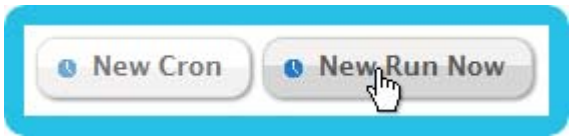


Figure 4 - 60: Run Now schedule creation button

Once clicked, a window appears in front of the Administration Console:

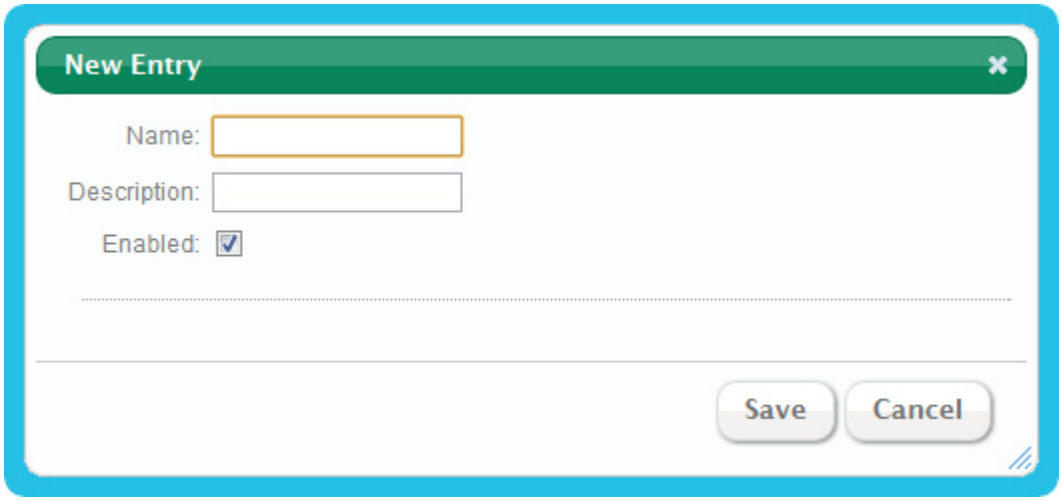


Figure 4 - 61: New schedule entry - CRON case

2 You have to fill in some information to define the `Run Now` schedule. Parameters to set are:

- **Name**: A name for this schedule, as schedules are used in the *Scheduled Jobs* table, it is recommended to give recognizable names to schedules.
- **Description**: An optional description or notes concerning the schedule.
- **Enabled**: Checkbox that allows you to define if the schedule is `enabled` (checked checkbox) or `disabled` (not checked checkbox). Only enabled schedules are triggered and launch scheduled jobs. Disabled schedules will not be triggered, even if used in an enabled scheduled job. This setting is by default set to `enabled`.

Scheduled jobs that use an enabled `Run Now` schedule start immediately after creation (or when enabled). Once triggered, such a scheduled job auto-disables itself.

3 When you finish specifying the schedule, click on the **Save** button to create it:

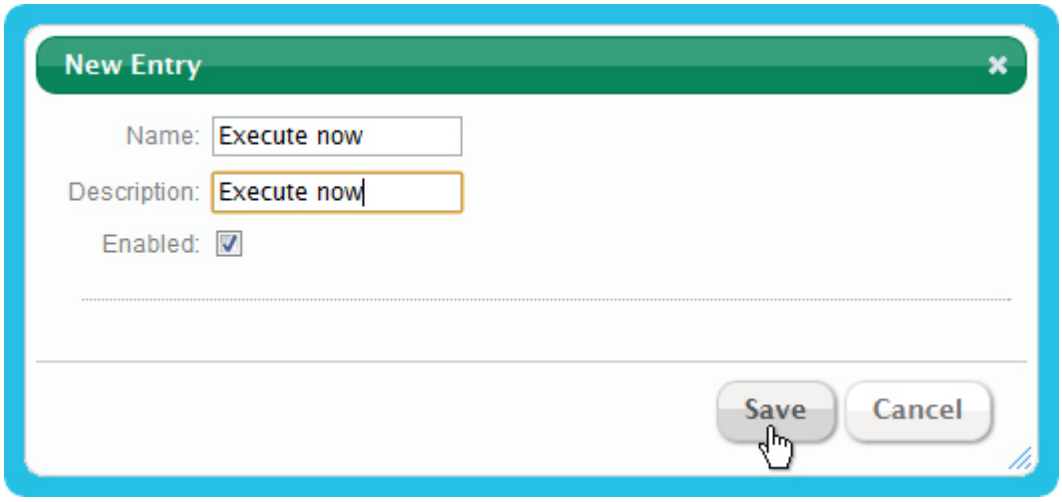


Figure 4 - 62: Saving a new Run Now schedule

4 After clicking on the **Save** button, a message window appears to inform that the object was correctly saved:

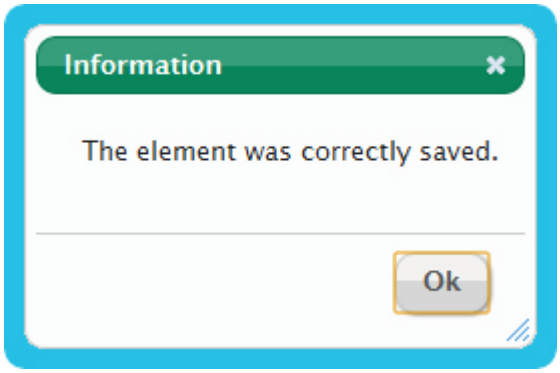


Figure 4 - 63: New schedule created

5 Click on the **Ok** button to close the popup window. The new schedule appears in the *Schedules* table:

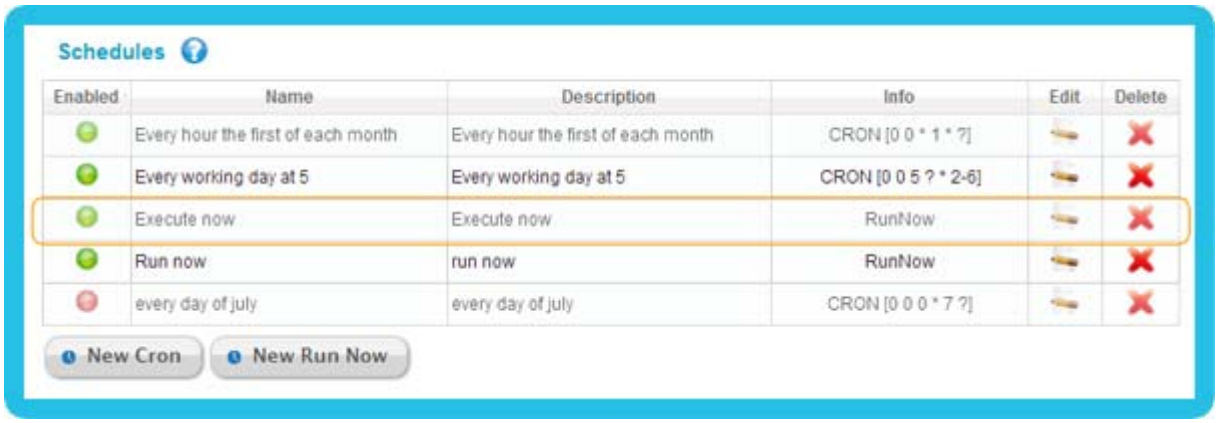


Figure 4 - 64: Schedules table with the new schedule

EDITING A SCHEDULE

In the *Schedules* table, the **Edit** column contains a button that allows you to edit an existing schedule.

To edit an existing schedule

1 Click on the **Edit** button of the schedule line.

A popup window opens (here in the case of a `CRON` schedule):

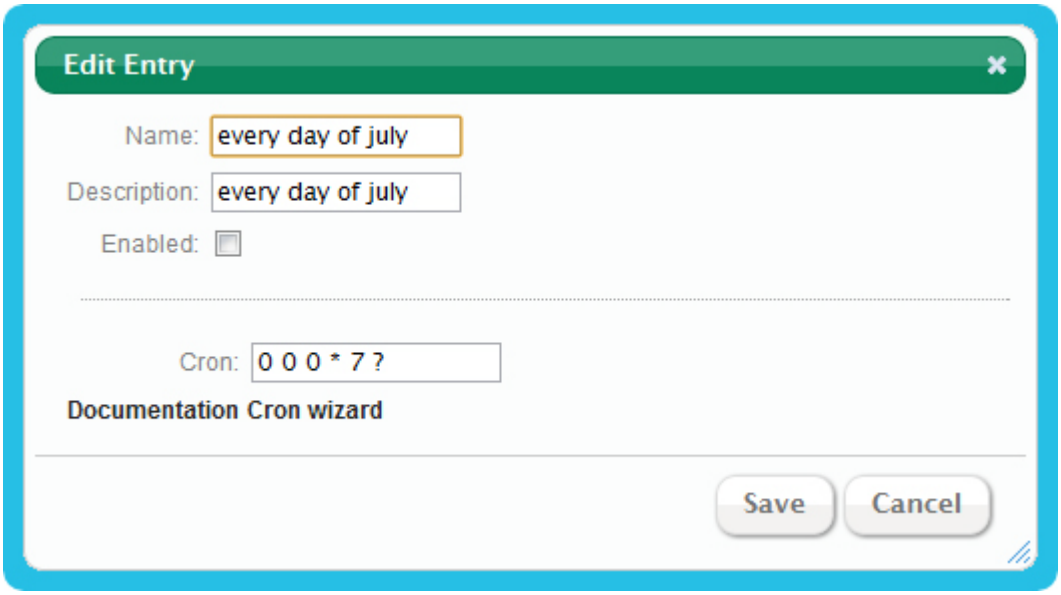


Figure 4 - 65: Schedule edition

2 Change the values of the schedule settings you want to edit. For example, enable the schedule by checking the **Enabled** checkbox:

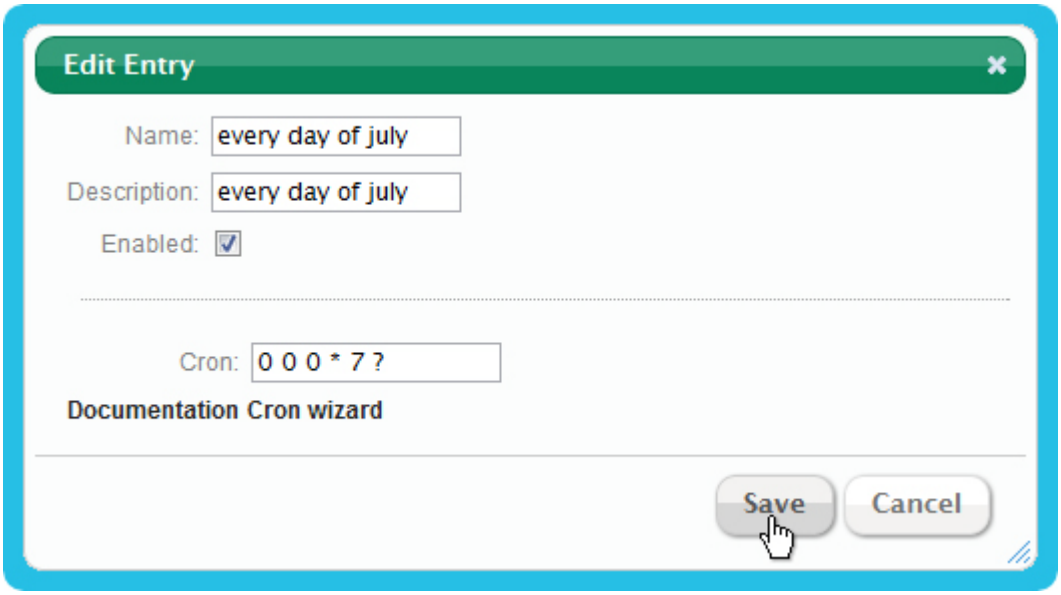


Figure 4 - 66: Edited schedule

3 Click on the **Save** button to save the updated values or click on the **Cancel** button if you want to cancel the schedule update.

4 After clicking on the **Save** button, a message window appears to inform that the object was correctly saved:

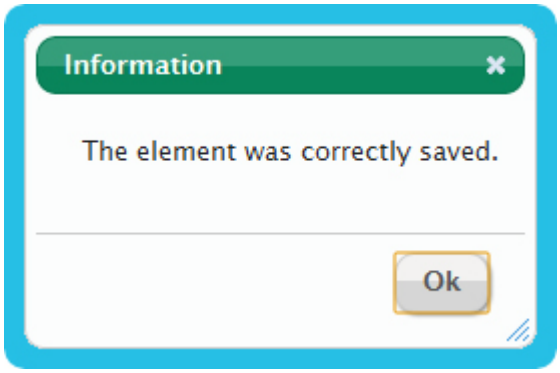


Figure 4 - 67: Schedule updated

5 Click on the **Ok** button to close the popup window. The updated schedule appears in the *Schedules* table:

Figure 4 - 68: Schedules table with the edited schedule

DELETING A SCHEDULE

In the *Schedules* table, the **Delete** column contains a button that allows you to delete an existing schedule.

To delete an existing schedule

1 Click on the  button of the schedule line.

A popup window opens, asking for a confirmation before deleting the schedule:

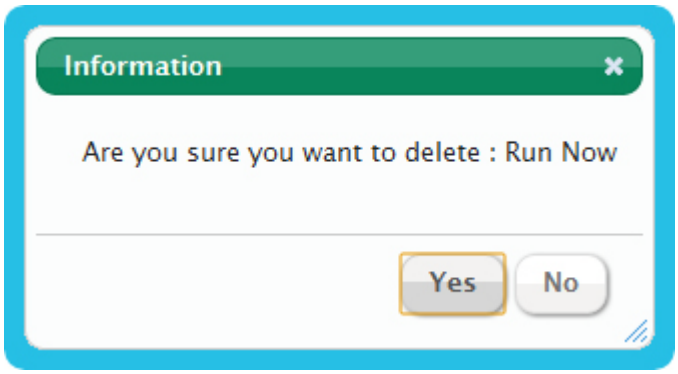


Figure 4 - 69: Schedule deletion confirmation

2 Click on **Yes** to delete the selected schedule or click on **No** to abort the schedule

deletion.

3 After clicking on the **Yes** button, the schedule is deleted from the *Schedules* table:

Figure 4 - 70: Schedules table without the deleted schedule

WHAT'S NEXT

Now that the *Schedules* table is fully described, the following section will present the *Scheduled Jobs* table, in which you can combine a job and a schedule previously created.

4.9.4 Scheduled Jobs table

The *Scheduled Jobs* table lists the scheduled jobs. A scheduled job is the association of a job and a schedule. Once combined, the job will run at the date and time specified in the schedule. Both the job and the schedule must be enabled, along with the scheduled job, for the scheduled job to be executed.

Figure 4 - 71: Scheduled jobs table

This section is separated in the following paragraphs:

- Description of the Scheduled Jobs table
- Creating a new scheduled job
- Editing a scheduled job
- Deleting a scheduled job

DESCRIPTION OF THE SCHEDULED JOBS TABLE

For each scheduled job, the *Scheduled Jobs* table includes the following columns:

- **Enabled**: This column displays a green bullet if the scheduled job is enabled and a red bullet if the scheduled job is disabled. Only enabled scheduled jobs are executed.

Disabled scheduled jobs will not be executed, even if they combine an enabled schedule and an enabled job.

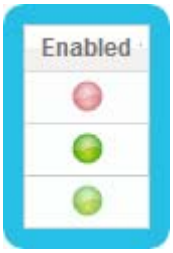


Figure 4 - 72: Scheduled Jobs table Enabled column

You can change a scheduled job's state (enable or disable it) by editing the scheduled job. For more information on scheduled job edition, see "Editing a scheduled job" on page 4-68.

- **Name**: This is the name of the created scheduled job, automatically generated by the *Scheduler* depending on the combined job and shedule.

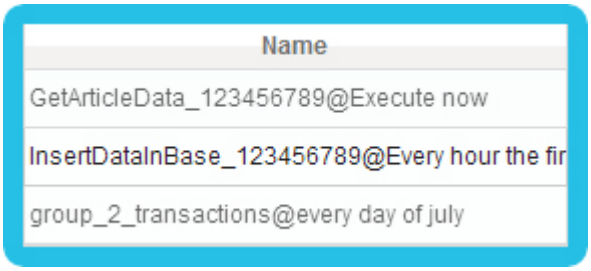


Figure 4 - 73: Scheduled jobs table Name column

- **Description**: This is the description of the created scheduled job, filled by the user at its creation.
- **Info**: This column displays information about the scheduled job's ability to be executed:
  - first, if the scheduled job is ready or not ready to run,
  - and, if applicable, the reason why the job is not ready to run (if it is the job or the schedule that is disabled). Nothing is written in this second part if it is the scheduled job itself that is disabled.

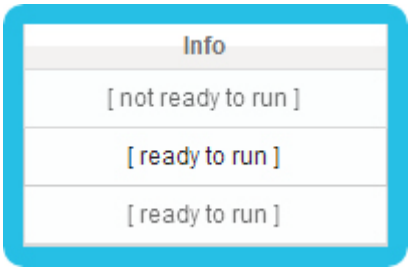


Figure 4 - 74: Scheduled jobs Info column

- **Edit**: This column contains a button that allows you to edit the scheduled job. For more information on scheduled job edition, see *"Editing a scheduled job"* on page 4-68.

- **Delete**: This column contains a button that allows you to delete the scheduled job.

  For more information on scheduled job deletion, see *"Deleting a scheduled job"* on page 4-70.

CREATING A NEW SCHEDULED JOB

The *Scheduled Jobs* table allows you to create a new scheduled job. Find below the procedure that describes how to create a scheduled job.

To create a scheduled job

1 Click the **New Scheduled Job** button located beneath the *Scheduled Jobs* table, to define a new scheduled job.

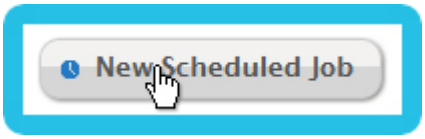


Figure 4 - 75: Scheduled job creation button

Once clicked, a window appears in front of the page:

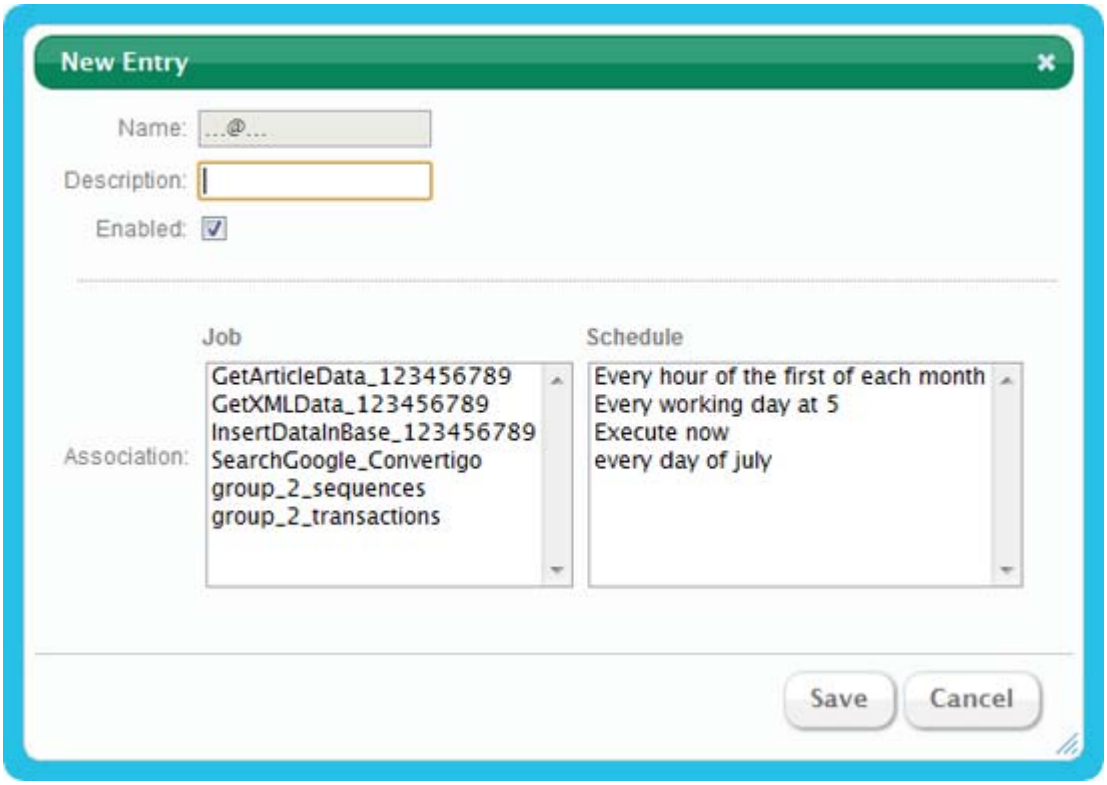


Figure 4 - 76: New scheduled job entry

2 You have to fill in some information to define the scheduled job. Parameters to set are:

- **Name**: A name will automatically be generated for this scheduled job by the *Scheduler*, depending on the combined job and schedule.
- **Description**: An optional description or notes concerning the scheduled job.
- **Enabled**: Checkbox that allows you to define if the scheduled job is `enabled` (checked checkbox) or `disabled` (not checked checkbox). Only enabled

scheduled jobs are executed. Disabled scheduled jobs will not be executed, even if they combine an enabled schedule and an enabled job.This setting is by default set to `enabled`.

- **Association**: This is the main configuration of the scheduled job, through which you can associate the job and the schedule. It presents two lists: **Job** and **Schedule**, each enumerating all existing jobs/schedules. You have to configure the Scheduled Job by associating a job and a schedule, simply by selecting the job and the schedule in each of the two lists.

3 When you finish specifying the scheduled job, click on the **Save** button to create it:

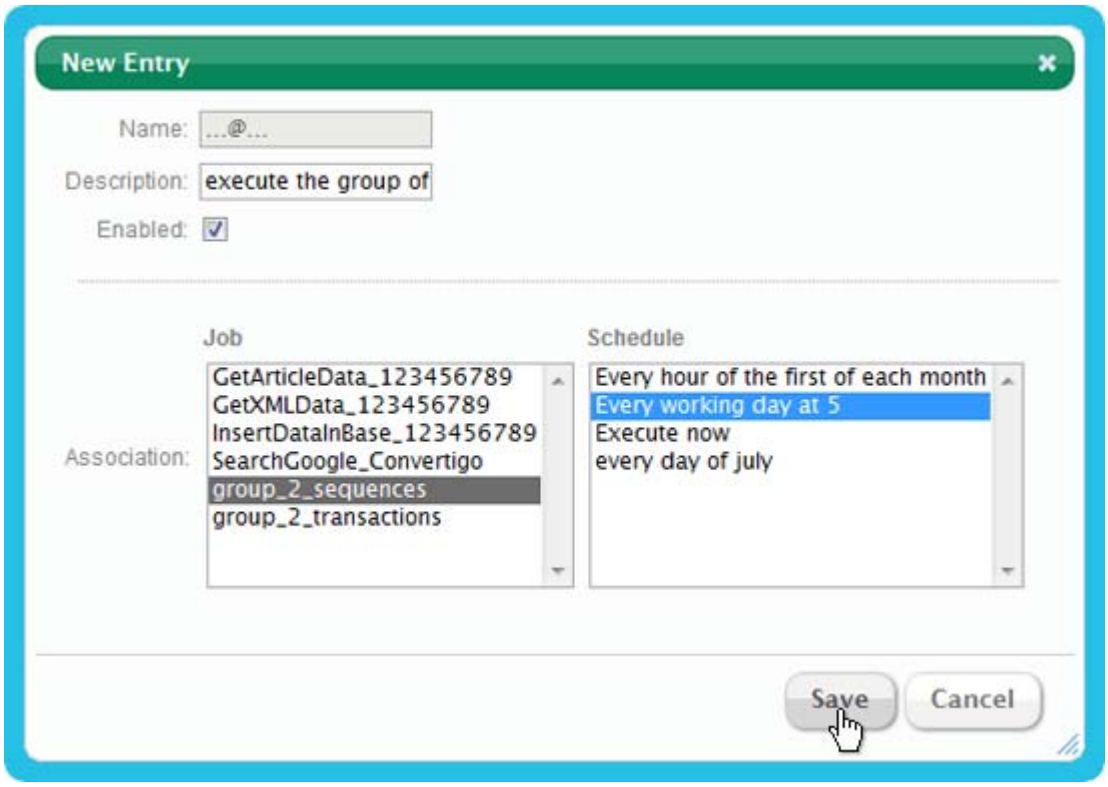


Figure 4 - 77: Saving a new scheduled job

4 After clicking on the **Save** button, a message window appears to inform that the object was correctly saved:

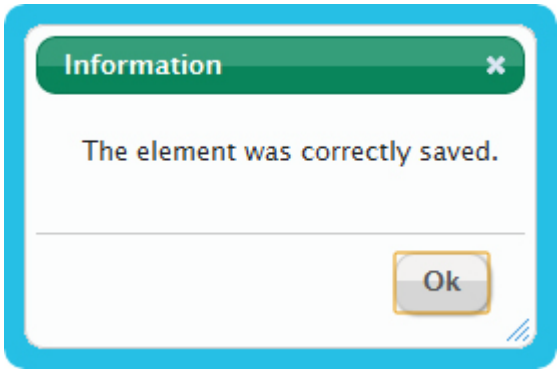


Figure 4 - 78: New scheduled job created

5 Click on the **Ok** button to close the popup window. The new scheduled job appears in the *Scheduled Jobs* table:

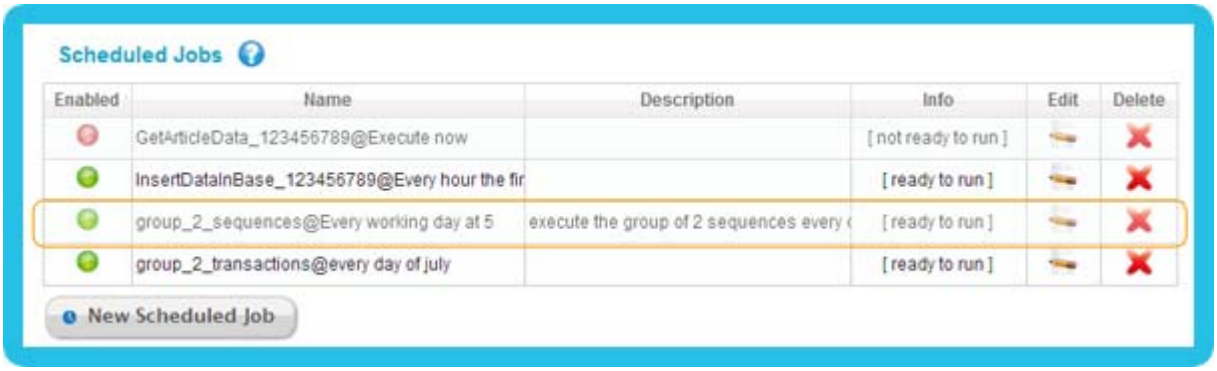


Figure 4 - 79: Scheduled Jobs table with the new scheduled job

Scheduled jobs that use an enabled Run Now schedule start immediately after creation (or when enabled). Once triggered, such a scheduled job auto-disables itself.

EDITING A SCHEDULED JOB

In the *Scheduled jobs* table, the **Edit** column contains a button that allows you to edit an existing scheduled job.

To edit an existing scheduled job

1 Click on the **Edit** button of the scheduled job line.

A popup window opens:

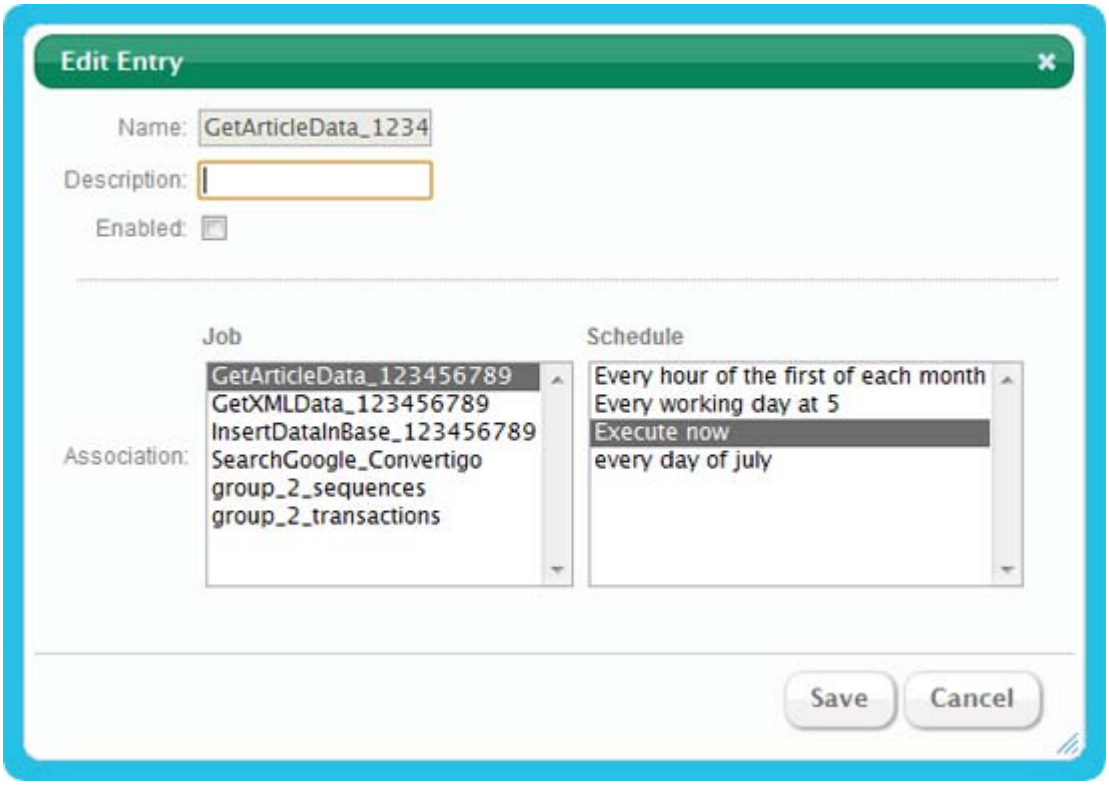


Figure 4 - 80: Scheduled job edition

2 Change the values of the scheduled job settings you want to edit. For example, enable the scheduled job by checking the **Enabled** checkbox:

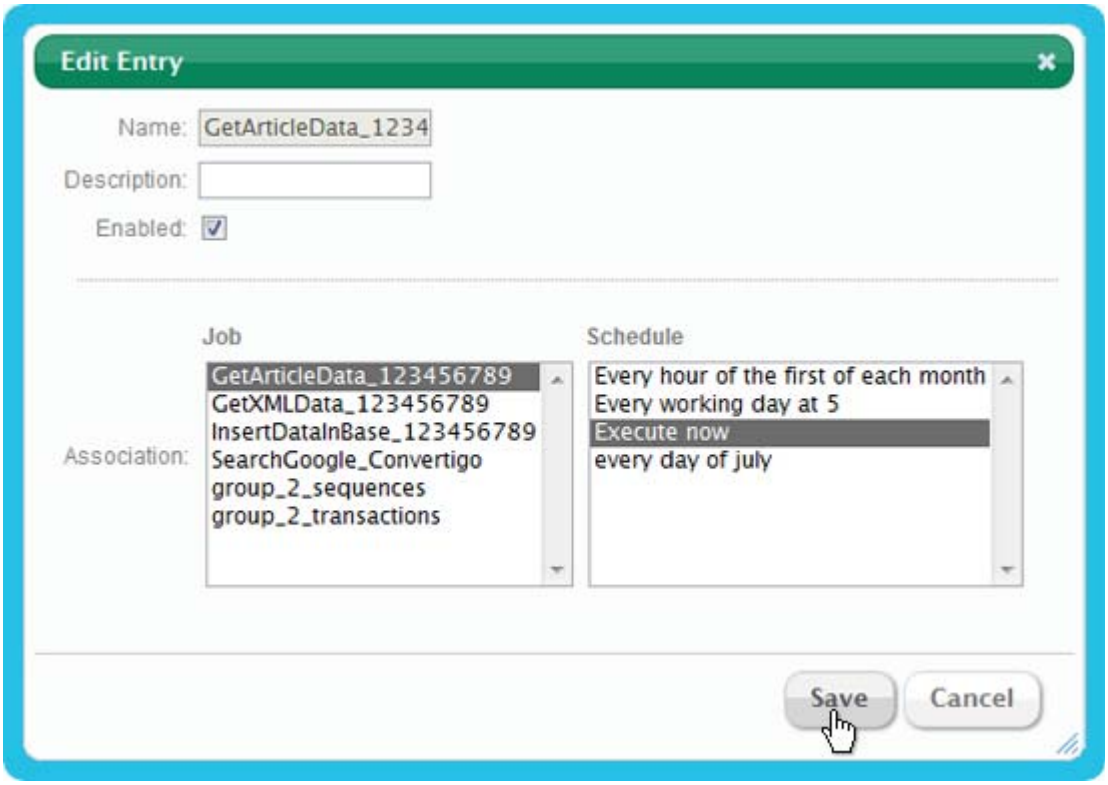


Figure 4 - 81: Edited scheduled job

3 Click on the **Save** button to save the updated values or click on the **Cancel** button if you want to cancel the schedule update.

4 After clicking on the **Save** button, a message window appears to inform that the object was correctly saved:

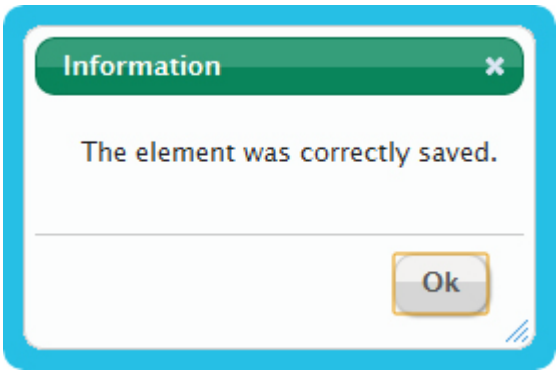


Figure 4 - 82: Scheduled job updated

5 Click on the **Ok** button to close the popup window. The updated scheduled job appears in the *Scheduled Jobs* table:

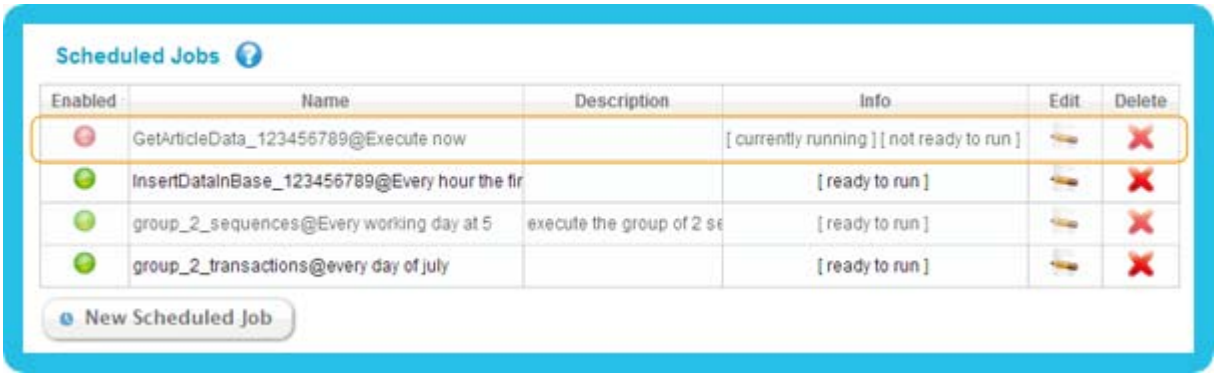


Figure 4 - 83: ScheduledJobs table with the edited scheduled job

*Scheduled jobs that use an enabled Run Now schedule start immediately when enabled. Here, the updated scheduled job is currently running, it is displayed in the **Info** column. Once triggered, such a scheduled job auto-disables itself, this is why the bullet of the **Enabled** column remains red.*

Deleting a scheduled job

In the *Scheduled Jobs* table, the **Delete** column contains a button that allows you to delete an existing scheduled job.

To delete an existing scheduled job

1 Click on the button of the scheduled job line.

A popup window opens, asking for a confirmation before deleting the scheduled job:

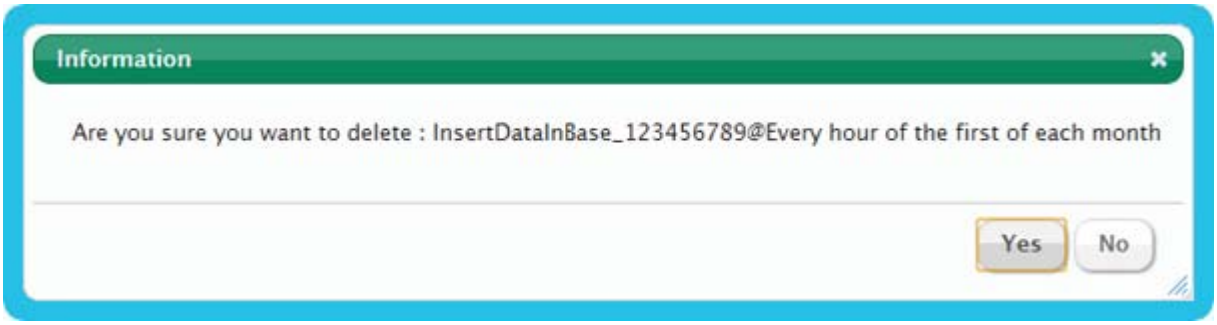


Figure 4 - 84: Scheduled job deletion confirmation

2 Click on **Yes** to delete the selected scheduled job or click on **No** to abort the scheduled job deletion.

3 After clicking on the **Yes** button, the scheduled job is deleted from the *Scheduled jobs* table:

Figure 4 - 85: Scheduled Jobs table without the deleted scheduled job

4.10 Keys

The Left menu contains a link to the *Keys* page. The *Keys* page permits you to add keys and review active keys.

More information on the *Keys* page is coming soon.

4.11 Global symbols

The Left menu contains a link to the *Global symbols* page. The *Global symbols* page permits you to manage *Global symbols*.

More information on the *Global symbols* page is coming soon.

Appendixes

This chapter contains all appendixes related to the *Operating Guide*:

- Convertigo workspace
- Connector monitoring windows
- Differences between Convertigo Server and Convertigo Cloud in Administration Console
- Analytics in Convertigo Server
- SQL drivers and related jar files

A.1 Convertigo workspace

Convertigo plugin and war contain static data, that are not subject to be modified by the user. All other files are in a user directory: the Convertigo workspace.

This section presents the Convertigo workspace, as well as information about setting this directory or updating it:

- Presentation of Convertigo Workspace
- Setting Convertigo workspace
- Updating Convertigo workspace

A.1.1 Presentation of Convertigo Workspace

The Convertigo workspace is a directory external to the installation directory into which the user has write permissions. This workspace contains all Convertigo user data: the projects, the configuration files, the logs, etc.

In case of a Convertigo Studio, the user is the Convertigo developper running and using the Studio. In case of a Convertigo Server, the user is the logged account running the Server.

The default location of the Convertigo workspace depends on the Convertigo type (Studio/ Server), the Operating System and the Application Server (for Servers). See the appropriate installation documentation for each case.

The Convertigo workspace contains the following folders and data:

- **cache**: this folder contains the file cache repository, including the cached responses,
- **certificates**: this folder contains the Convertigo installed certificates (client or server),
- **configuration**: this folder contains the configuration files for the Convertigo engine,
- **databases**: this folder contains HSQLDB databases files,
- **logs**: this folder contains the Convertigo engine log files,
- **minime**: this folder contains the default legacy emulator configurations as well as Convertigo licenced keys,
- **projects**: this folder contains the Convertigo projects,

In case of a Convertigo Studio, the configurable workspace folder is the Eclipse workspace, where the projects are located.
That means that the `projects` folder is empty in the Studio's Convertigo workspace.
The Studio's Convertigo workspace, containing all the described folders, is located inside the Eclipse workspace, in the `.metadata\.plugins\com.twinsoft.convertigo.studio` folder.

- **studio**: this folder contains some Studio specific configurations,
- **xulrunner-work**: this folder contains the work directory of embedded xulrunner for HTML

connector.

The Convertigo workspace should be different for each installed/ running Convertigo: two Convertigo, for example a Studio and a Server, or two Servers, should never share a workspace directory.

A.1.2 Setting Convertigo workspace

It is possible, from Convertigo version 5.1.2, to specify the Convertigo workspace directory. This is done through:

- JVM property
- Installation wizard

JVM PROPERTY

The Convertigo workspace path is provided through a JVM property:

```
-Dconvertigo.cems.user_workspace_path=
<absolute_path_to_the_convertigo_workspace_directory>
```

If this JVM property is not provided, search for a file named `.convertigo` and located at the root of the user home. It contains a property giving the path to the Convertigo workspace:

```
cems.user_workspace_path=
<absolute_path_to_the_convertigo_workspace_directory>
```

INSTALLATION WIZARD

If you are installing Convertigo Studio with installation package (on Windows), the Eclipse workspace path is configurable after installation at the Studio's first start.

If you are installing Convertigo Server with installation packages (on Windows or on Linux/ Tomcat), the Convertigo workspace path is configurable through the installation wizard.

If you are installing convertigo with war file, the Convertigo workspace can be specified, but it depends on the Operating System and the Application Server. Refer to the appropriate installation documentation depending on the Operating System and the Application Server.

A.1.3 Updating Convertigo workspace

It is possible to update the Convertigo workspace directory after installation, depending on the Operating System and the Application Server. See the appropriate installation documentation depending on the Operating System and the Application Server, or find below other cases.

LINUX + WEBSPHERE CONFIGURATION

If you are using WebSphere application server, and if you want to change the workspace directory after Convertigo installation, the Convertigo workspace can be specified in WebSphere console.

In left menu, expand ***Java and Process management > Process definition*** and select **Java Virtual Machine**. Then, edit **Generic JVM arguments** to add:

```
-Dconvertigo.cems.user_workspace_path=
<absolute_path_to_the_workspace_directory>
```

You have to restart WebSphere server for Convertigo to use the new workspace location.

A.2 Connector monitoring windows

Two windows are connector monitors: the *Legacy connector monitor* and the *HTML connector monitor*.

This section presents both windows as well as the requirements needed for displaying these windows on several server environments:

- Presentation of the connector monitoring windows
- Activate the connector monitors on a Windows-based system
- Activate the connector monitors on a Linux-based system

A.2.1 Presentation of the connector monitoring windows

Convertigo Server includes two connector monitoring windows:

- Legacy connector monitor
- HTML connector monitor

LEGACY CONNECTOR MONITOR

The *Legacy connector monitor* is a window that is used for monitoring the screens that are reached by the legacy connectors. It displays a graphical rendering of the legacy connectors currently in use in the active contexts of the Convertigo Server.

It is not instantiated by default after a Convertigo Server installation and has to be activated.

HTML CONNECTOR MONITOR

The *HTML connector monitor* is a window that is used for monitoring the pages that are reached by the HTML connectors. It displays a graphical rendering of the HTML connectors currently in use in the active contexts of the Convertigo Server.

It is a necessary tool for the HTML connector to work in Convertigo Server. It is not always visible but it always exists after a Convertigo Server installation (using the Windows installer of the Linux installation file).

Find more information about the activation and display of both connector monitoring windows in “Activate the connector monitors on a Windows-based system” on page A - 5 and “Activate the connector monitors on a Linux-based system” on page A - 13..

A.2.2 Activate the connector monitors on a Windows-based system

This section presents the common configuration to perform on Windows intalled Convertigo Server before activating each of the monitors:

- Interaction with desktop
- HTML connector monitor display
- Legacy connector monitor display

INTERACTION WITH DESKTOP

After installing a Convertigo Server on a Windows operating system, the Convertigo Server is installed as a service. To be able to display the connector monitors, the service has to be authorized to interact with the desktop.

Activate service's interaction with desktop on Windows

1 Open the properties window of the Convertigo Server service:

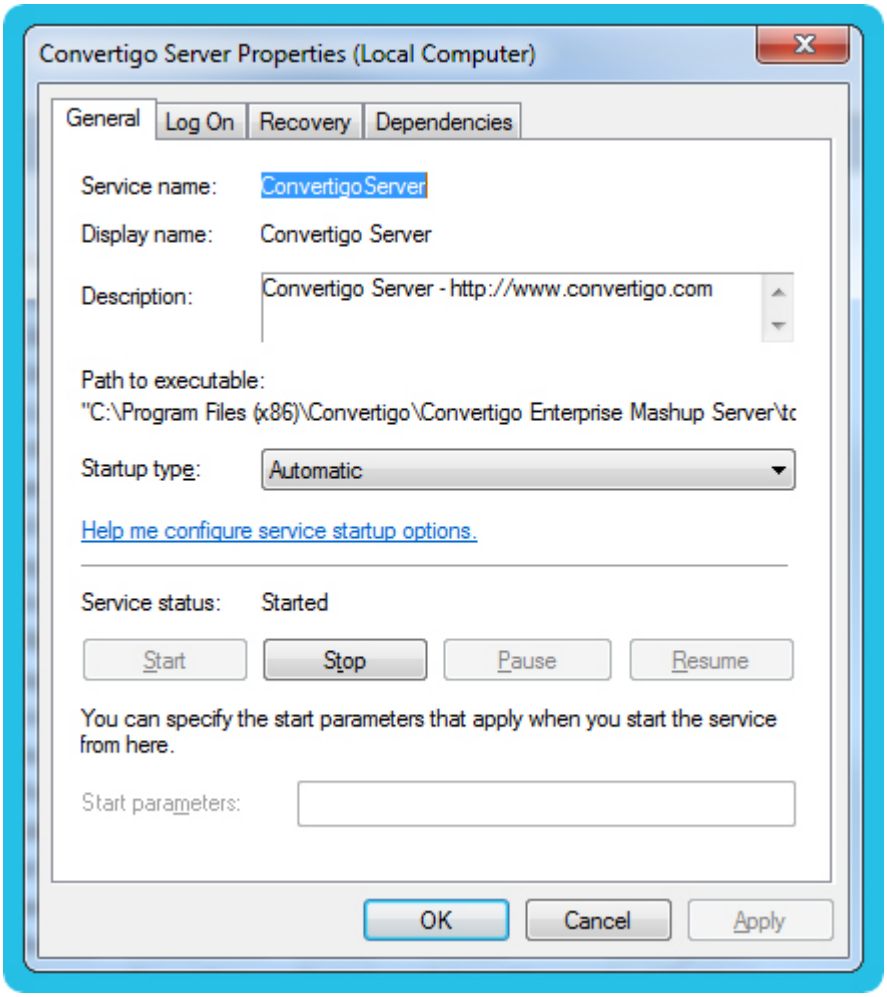


Figure A - 1: Convertigo Server service properties

2 You can also find a shortcut icon in Windows taskbar, named *Convertigo Server*. Right-click on this icon and select **Configure...** option:

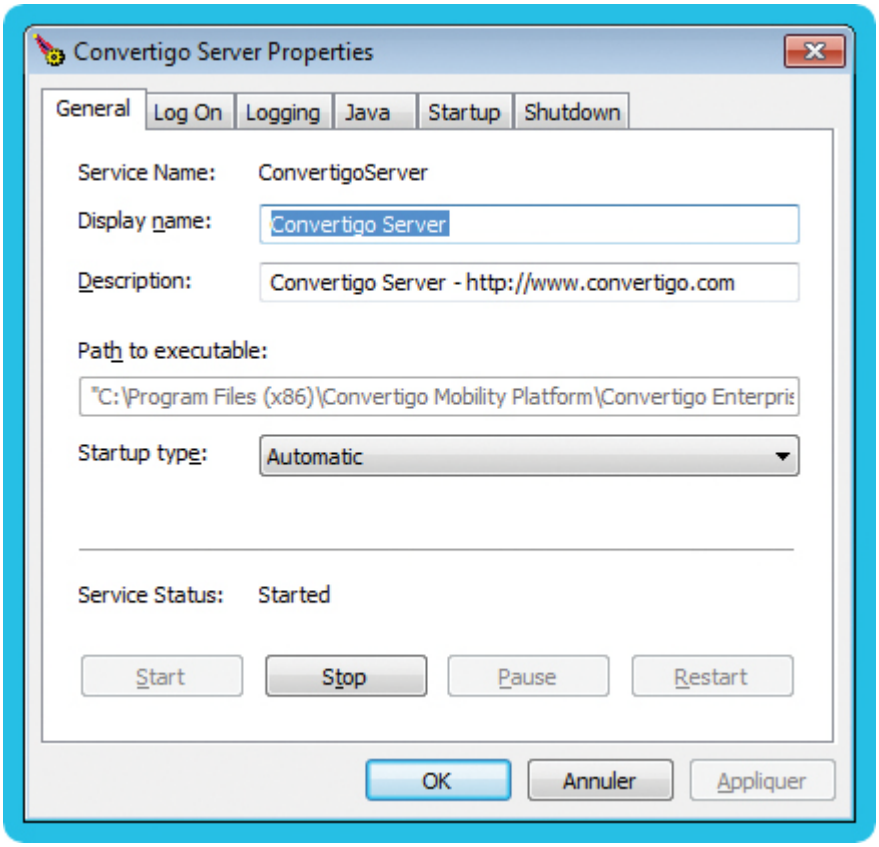


Figure A - 2: Convertigo Server Tomcat Configurator

3 Switch to the **Log On** tab:

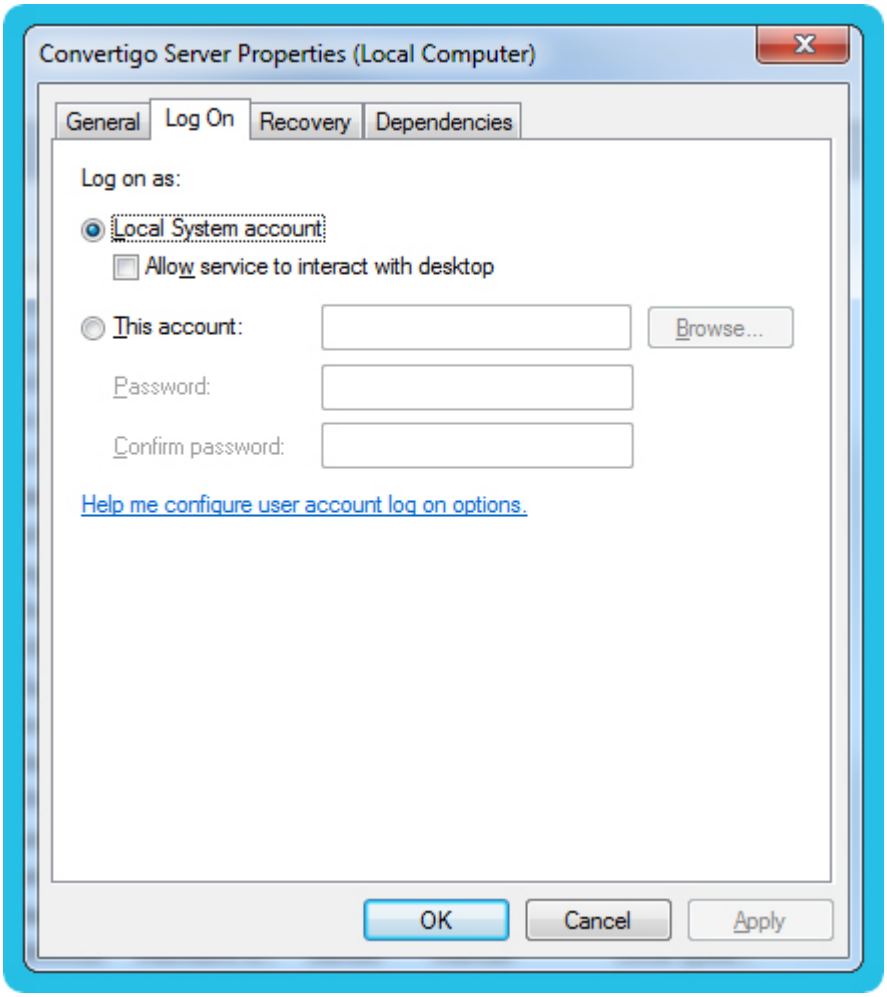


Figure A - 3: Log On tab of Convertigo service properties

4 Check the **Allow service to interact with desktop** option:

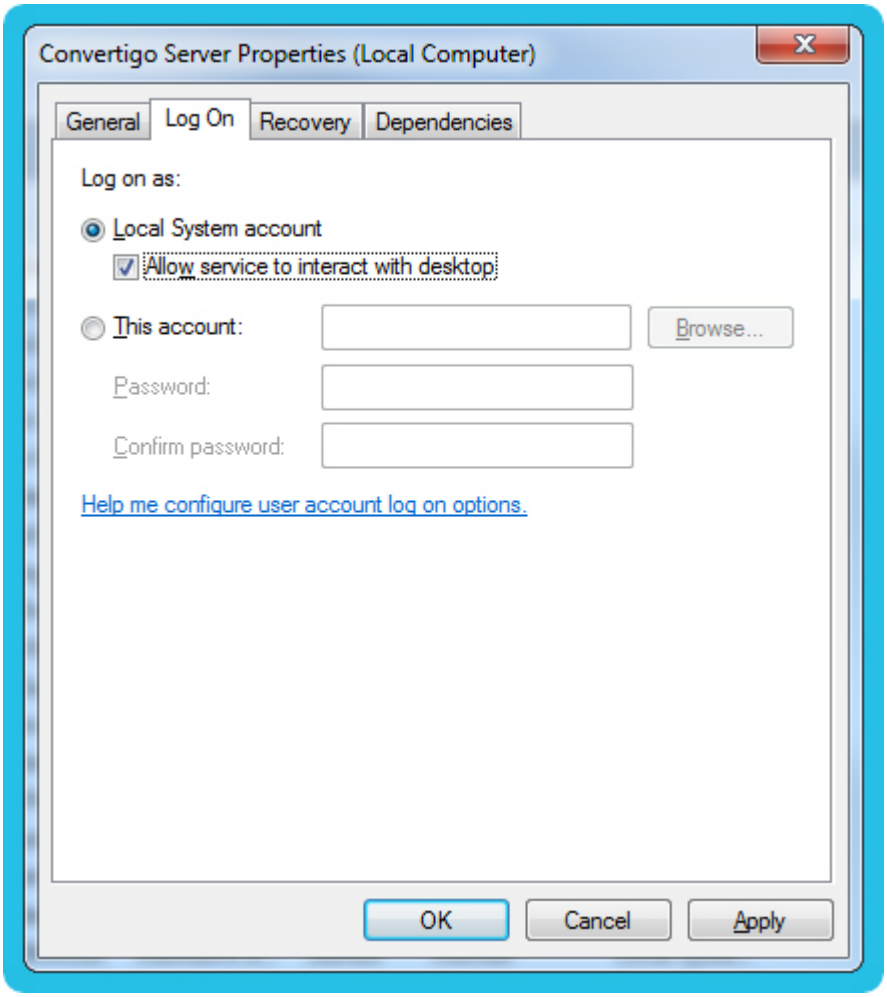


Figure A - 4: Activation of the desktop interaction on the Log On tab of Convertigo service properties

5 Click on the **OK** button to validate the option and close the window.

You may have to restart the service for the property to be completely taken into account.

HTML CONNECTOR MONITOR DISPLAY

Now that the service is authorized to interact with the desktop, any transaction execution using an HTML connector displays the *HTML connector monitor*.

Depending on Windows version, the monitor can appear directly on the desktop or popup indicates that the program wants to display a message. While accessing this message, the *HTML connectos monitor* appears:

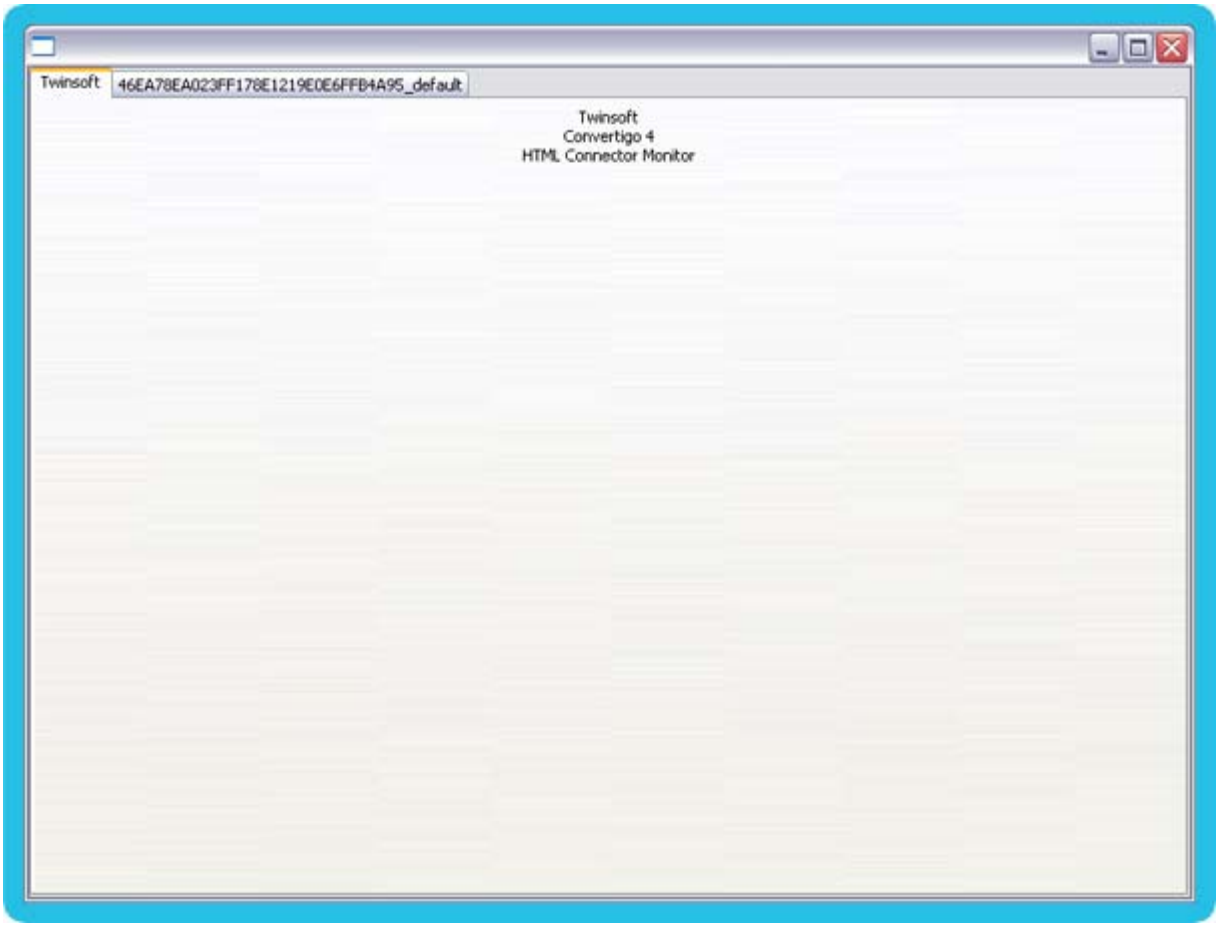


Figure A - 5: HTML connector monitor

Every context that will use an HTML connector will the be displayed in the same monitor, added in a new a tab:

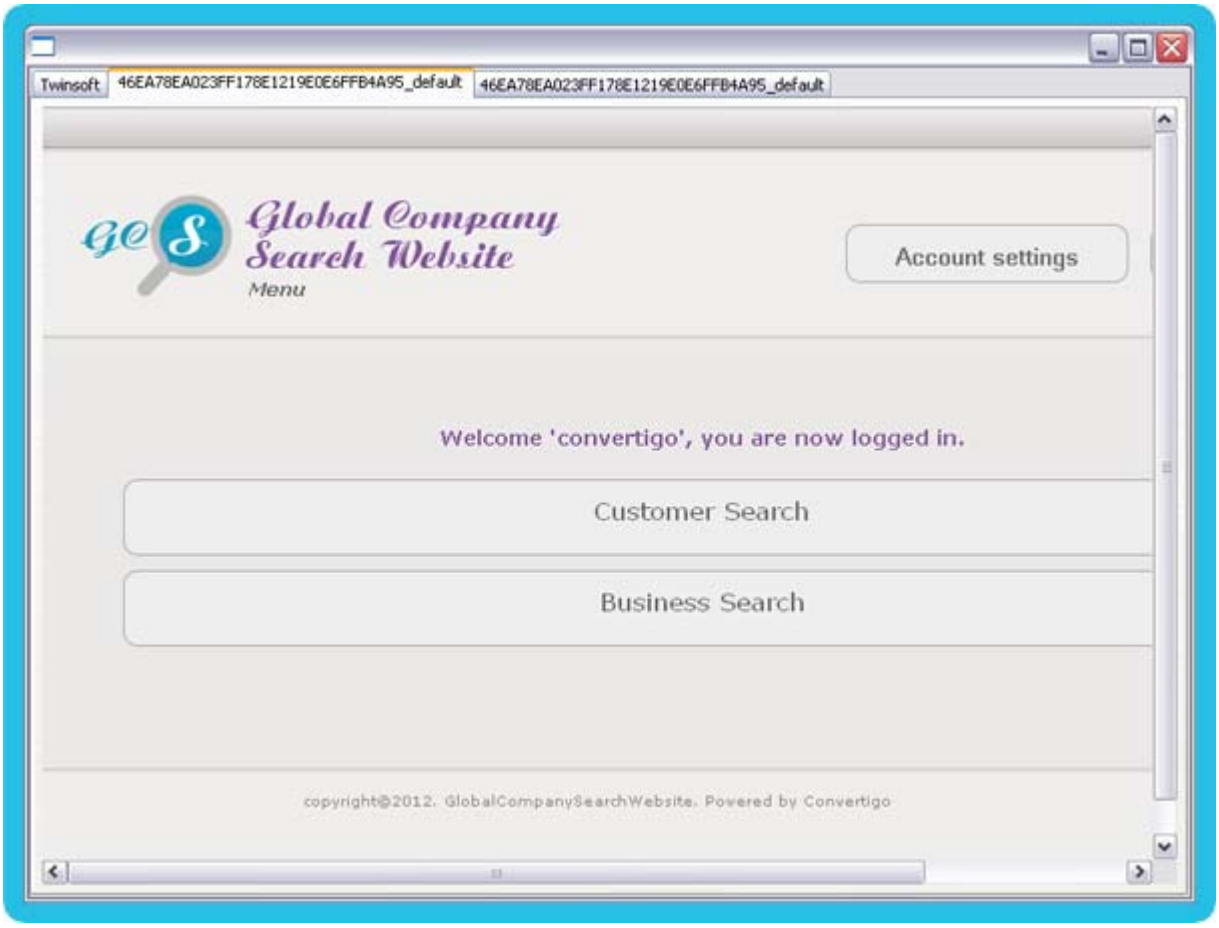


Figure A - 6: Several contexts in HTML connector monitor

This window must never be closed as it would cause Convertigo Server to be killed.

LEGACY CONNECTOR MONITOR DISPLAY

To display this monitor, an option has to be configured in the Administration Console *Configuration* page, see *"Real-time activity monitoring"* on page 4-20.

After restarting the server, the *Legacy connector monitor* will appear next to the *HTML connector monitor*:

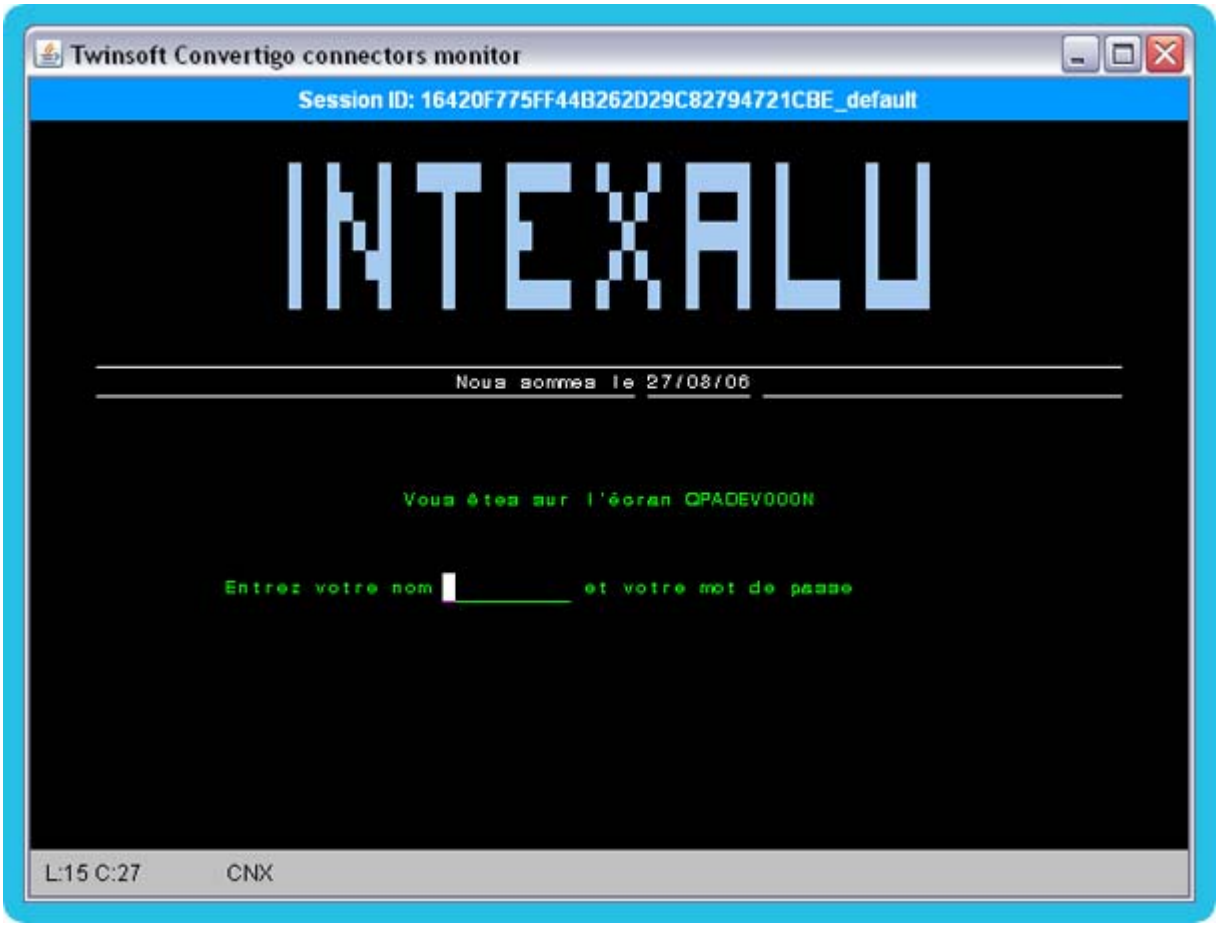


Figure A - 7: Legacy connector monitor

Every context that will use a legacy connector will the be displayed in the same monitor, next to others:

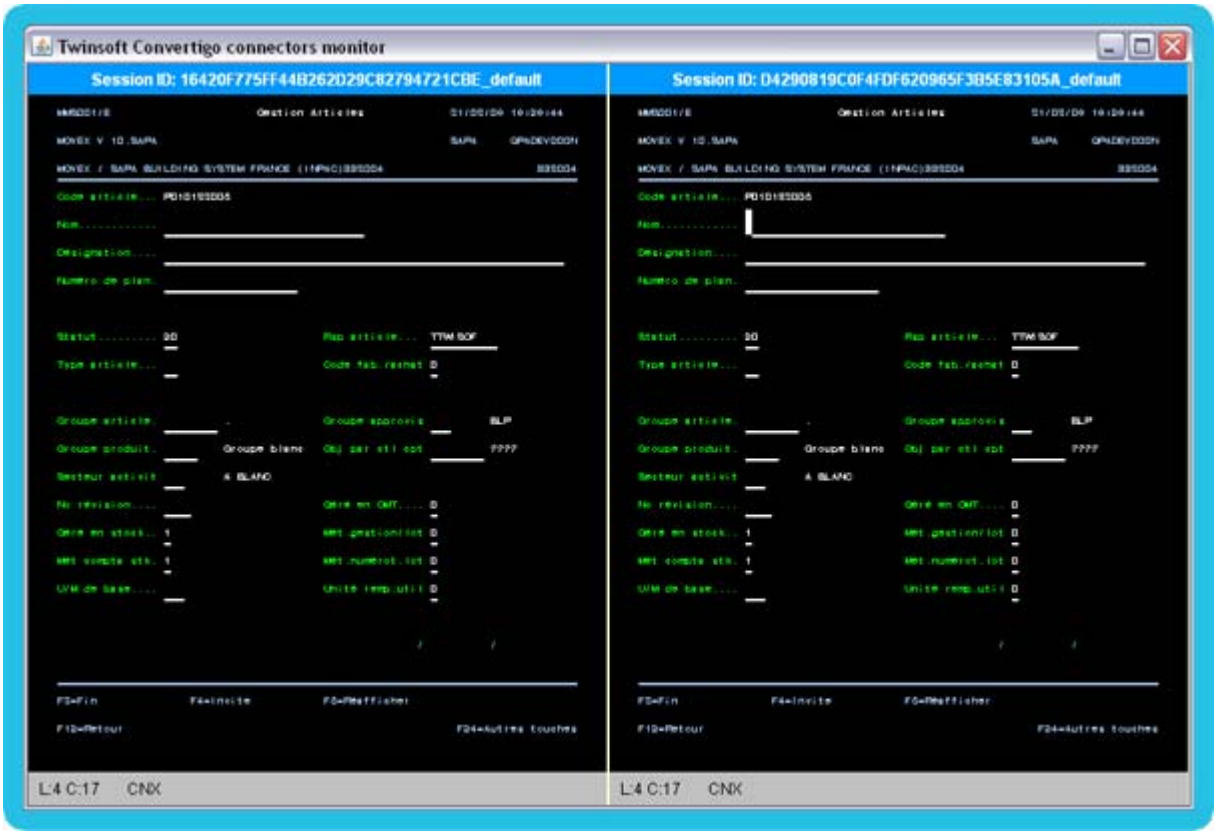


Figure A - 8: Several contexts in Legacy connector monitor

This window must never be closed as it would cause Convertigo Server to be killed.

A.2.3 Activate the connector monitors on a Linux-based system

After installing a Convertigo Server on a Linux operating system, the *HTML connector monitor* is automatically instantiated in an XVNC.

To display the *HTML connector monitor*, you can directly launch a VNC player on port 5903.

To display the *Legacy connector monitor*, an option has to be configured in the Administration Console *Configuration* page, see *"Real-time activity monitoring"* on page 4-20.

After restarting the server, the *Legacy connector monitor* will appear next to the *HTML connector monitor*:

These windows must never be closed as it would cause Convertigo Server to be killed.

A.3 Differences between Convertigo Server and Convertigo Cloud in Administration Console

In Convertigo Cloud, a number of functionalities (pages or configurations) of the Administration Console are not accessible. This appendix lists these differences.

A.3.1 Pages

The following list shows the pages of the Administration Console that are not available at all in Convertigo Cloud:

- Keys page.

A.3.2 Configuration categories and settings

Configuration page of the Administration Console includes categories, in which is proposed the edition of settings.

This first list shows the categories of *Configuration* page that are not available at all in Convertigo Cloud's Administration Console:

- **Legacy Carioca portal management** category,
- **Billing system** category.

This second list shows the settings that are not available in Convertigo Cloud's Administration Console, from visible categories of *Configuration* page:

- in **Main configuration parameters** category:
  - Convertigo Server application URL,
  - (Linux only) Launch Xvnc server using DISPLAY environment variable at startup,
  - Linux only) Depth parameter for the Xvnc, default is 16,
  - (Linux only) Geometry parameter for Xvnc, default is 320x240,
  - Enable the compatibility mode for projects data (required for JSP usage); engine restart required,
- in **Log management** category:
  - Log4J default appender,
  - Log4J default appender file,
  - Log4J default appender layout,
  - Log4J audit appender file,
  - Log4J audit appender layout,
- in **HTML parser configuration** category:
  - XulRunner path,

- XulRunner work directory,

- in **Cache management** category:
  - Cache manager class,
  - File cache directory.

For more information about the pages or settings described in this appendix, see "Using Convertigo Administration Console" on page 4-1.

A.4 Analytics in Convertigo Server

In Convertigo Server, an analytics feature is available.

This section presents the analytics feature, as well as more detailed information:

- Analytics feature
- Ticket content

A.4.1 Analytics feature

The analytics feature is available in Convertigo Server, as well as for the Convertigo engine embedded in the Studio, but not in Convertigo Cloud. It can be activated in the *Configuration* page of the Administration Console, in *Analytics* tab.

The analytics feature consists in writing in a database one entry, also known as **ticket**, for each executed transaction or sequence. This is useful to monitor the Convertigo Server's activity. The analytics feature produces the raw data, but the management and treatment of these data has to be manually performed and personnalised by each Convertigo administrator.

A.4.2 Ticket content

For each execution of a transaction or sequence, a ticket is inserted in the database. The `Ticket` table contains the following columns:

Table A - 1: Ticket table columns

Column name	Type	Description
id	bigint(20) PK	The primary key of the record, it is an auto-incremented integer.
clientIp	varchar(255)	The IP address of the client that called the transaction or sequence. In the case of a transaction or sequence called by a *Call Transaction* or *Call Sequence* step, the IP address is `127.0.0.1`.
connectorName	varchar(255)	The name of the connector containing the executed transaction, in case of a transaction. Empty in the case of a sequence.
connectorType	varchar(255)	The **type** (the name of the Java class) of the connector containing the executed transaction, in case of a transaction. For example: `HtmlConnector`, `JavelinConnector`, `SqlConnector`, `HttpConnector`, etc. Empty in the case of a sequence.
creationDate	bigint(20)	The ticket creation date and time (as a timestamp).
customerName	varchar(255)	Contains a predefined value: • `CONVERTIGO Studio` in case of an execution in a Studio, or • `CONVERTIGO Server` in case of an execution in a Server.
projectName	varchar(255)	The name of the project containing the executed transaction or sequence.
requestableName	varchar(255)	The name of the executed transaction or sequence.
requestableType	varchar(255)	The **type** (the name of the Java class) of the executed transaction or sequence. For example: `GenericSequence`, `HtmlTransaction`, `JavelinTransaction`, `SqlTransaction`, `XmlHttpTransaction`, `HttpTransaction`, etc.
responseTime	bigint(20)	The response return date and time (as a timestamp).

Table A - 1: Ticket table columns

Column name	Type	Description
score	bigint(20)	The **score** calculated for this execution. Depending on the executed object, the score is different and calculated with the following method: • the number of detected screen classes for a transaction executed in one of the connectors with screen classes (Legacy, HTML), • `1` for another transaction execution (SQL, HTTP, ...), • `0` for a sequence execution.

userName	varchar(255)	The username defined for the execution, which is:
		• the value of the `username` property set in the `context` of execution of the transaction or sequence:
		  • set using the expression `context.set("username", "value")`
		  • retrieved using the expression `context.get("username")`,
		• the Carioca portal username, of if no Carioca portal is used, the default Carioca portal username:
		  • set in the *Administration Console Configuration* page, in *Legacy Carioca portal* tab, using property **Default user name**,
		• `user` if no previous value is set.

A.5 SQL drivers and related jar files

The *SQL connector* allows to connect to several types of databases. You can refer to the *SQL connector* documentation in the *Reference Manual* for more information about *SQL connector* and its configuration properties.

The type of database accessed by the *SQL connector* can be configured through the **Driver** property. Depending on the selected driver, Convertigo can or cannot deliver the needed jar file for execution.

When possible, Convertigo directly delivers the jar file needed to run code for connecting to the database. But sometimes, it is impossible to do so, because this jar file is not free.

In this case, Convertigo provides a fake jar instead, already declared in the software. When trying to execute, a log is displayed in the engine logs to warn you about this.

To run your SQL connector correctly, you only need to:

- get the correct jar file by your own,
- rename it to match the Convertigo jar file name,
- replace the fake jar in Convertigo by the real one:
  - in Convertigo Studio, jar files are located in `<Convertigo Studio installation folder>\plugins\com.twinsoft.convertigo.studio_x.y.z.v12345\lib`
  - in Convertigo Server, jar files are located in `<Convertigo Server installation folder>\tomcat\webapps\convertigo\WEB-INF\lib`
- and re-start Convertigo (Studio or Server).

The following table shows the matches between SQL Driver, jar file, and their presence or not in Convertigo for running:

Table A - 2: SQL Drivers and jar files in Convertigo

Driver	Database	jar file name	Delivered
sun.jdbc.odbc.JdbcOdbcDriver	JDBC-ODBC bridge for accessing ODBC databases	rt.jar (delivered in Java)	true
com.ibm.as400.access.AS400JDBCDriver	IBM AS400 database	jt400.jar	true
com.mysql.jdbc.Driver	MySQL database	mysql-connector.jar	false (fake jar)
net.sourceforge.jtds.jdbc.Driver	Microsoft SQL Server database	jtds-1.2.2.jar	true
org.hsqldb.jdbcDriver	HSQLDB database	hsqldb.jar	true
com.ibm.db2.jcc.DB2Driver	IBM DB2 Server database	db2jcc.jar + db2jcc-licence.jar	false (fake jars)
oracle.jdbc.driver.OracleDriver	ORACLE database	ojdbc5.jar	true
org.mariadb.jdbc.Driver	MariaDB database, community-developed fork of MySQL	mariadb-java-client-1.1.3.jar	true