

Sync4j

Sync4j SyncServer Quick Start Guide

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Table of Content

1. Introduction.....	3
1.1. Comments and feedbacks.....	3
2. Server quick start.....	4
2.1. How to get Sync4j SyncServer.....	4
2.2. The Sync4j bundle package and the unbundled applications.....	4
2.3. Installing Sync4j bundle.....	4
2.4. Installing SyncServer unbundled.....	5
3. Sync4j in action: the PIM demo.....	7
3.1. Your first synchronization.....	7
3.2. A step forward: synchronizing with Outlook.....	8
3.3. The final goal: your phone synchronized with everything else.....	9
4. References and Resources.....	11
4.1. Resources.....	11

1. Introduction

This Quick Start Guide is intended to get you started in using Sync4j SyncServer 4.0.x, included in Sync4j 2.2.

Sync4j SyncServer is delivered with a simple example PDI (personal data information) application that stores contacts and calendar information (PIM) on the file system, so that you can quickly see the product in action.

The document will guide you to synchronize PIM data (contacts and calendar) with a visual demo client and a web interface. Moreover, the steps to synchronize Outlook and a SyncML phone will be explained.

Related Documents

The following documents are related to this quick start guide:

- Sync4j SyncServer Administration Guide
- Sync4j SyncServer Developer Guide
- Sync4j SyncServer Architecture Document

1.1. Comments and feedbacks

The Sync4j SyncServer team wants to hear from you! Please submit your questions, comments, feedbacks or testimonials to sync4j-users@lists.sourceforge.net.

2. Server quick start

This section describes how to install and configure Sync4j SyncServer 4.0.x.

2.1. How to get Sync4j SyncServer

Check the Sync4j homepage (<http://www.sync4j.org>) for information about the current version and for downloading instructions.

2.2. The Sync4j bundle package and the unbundled applications

Sync4j SyncServer is available in two forms: within the *Sync4j bundle* and as a separate package (*unbundled*). The *Sync4j bundle* includes everything you need to run and manage SyncServer, including the SyncAdmin and the Tomcat server. In order to run the *unbundled* version, you must have an application server on which you deploy SyncServer. Currently, SyncServer has been tested and certified to work on top of JBoss 3.0.x[2], JBoss 3.2.x[2] and Tomcat 5.0.x[4].

2.3. Installing Sync4j bundle

Windows instructions

1. Download sync4j-2.2b4.exe from www.sync4j.org and run it. It will install the software.
2. Follow the instructions during the installation. The server will be started automatically and you will see the Quick Start document (this document). Go to the next chapter and follow the instructions to run the PIM demos and see the product in action.

Unix/Linux instructions

1. Download sync4j-2.2b4.bin from www.sync4j.org and run it. It will unpackage the software.
2. To start the server, open a shell and cd to the <SYNC4J_HOME> directory; then run `tools/bin/startall.sh`
3. Go to the next chapter and follow the instructions to run the PIM demos and see the product in action.

2.4. Installing SyncServer unbundled

The requirements to install Sync4j SyncServer 4.0.x unbundled are:

1. JDK 1.4.x[1]
2. JBoss 3.0.x[2]
or
JBoss 3.2.x[2]
or
Tomcat 5.0.x[4]
3. Sync4j SyncServer 4.0.x (syncserver-4.0.x.zip)

The installation procedure is made up of a combination of shell and Ant scripts performing the following tasks:

- Updating configuration files accordingly to user's parameters
 - Packaging for deployment on the chosen application server
 - Database tables creation
 - Deployment on the chosen application server
- Installing Sync4j SyncServer 4.0.x unbundled on JBoss

To install SyncServer, follow the procedure below:

1. Install the JDK 1.4.x if not already present.
2. Install JBoss if not already present.
3. Unpack syncserver-4.0.x.jar in a directory of your choice. We will refer to that directory as SYNC_SERVER_HOME.
4. Set up your database so that it can be accessed with a dedicated user (e.g. sync4j). This user needs to be granted permissions for connection, creating, deleting and selecting tables.
5. Customize *install.properties* to reflect your system.
6. On unix systems, give execution permission to the executable scripts in bin and ant/bin. Use the command (from SYNC_SERVER_HOME):

```
chmod +x bin/*.sh ant/bin/*
```
7. From SYNC_SERVER_HOME, run:

```
bin/install.sh jboss (bin\install.cmd jboss)
```

(Make sure that the environment variables JAVA_HOME and J2EE_HOME point respectively to your JDK/JRE home and to your JBoss home).
You will be asked if you want to create the database for SyncServer and some SyncServer modules. Respond yes ('y') to all questions.
8. Start Sync4j SyncServer: from SYNC_SERVER_HOME run:

```
bin/start.sh (bin\start.cmd)
```
9. Point the browser to <http://<server>:<port>/sync4j> to check that Sync4j SyncServer is properly installed (you should get the welcome page).

Installing Sync4j SyncServer 4.0.x unbundled on Tomcat 5.0.x

To install SyncServer, follow the procedure below:

10. Install the JDK 1.4.x if not already present.
11. Install Tomcat 5.0.x if not already present.
12. Unpack syncserver-4.0.x.jar in a directory of your choice. We will refer to that directory as SYNC_SERVER_HOME.
13. Set up your database so that it can be accessed with a dedicated user (e.g. sync4j). This user needs to be granted permissions for connection, creating, deleting and selecting tables.
14. Customize *install.properties* to reflect your system.

15. On unix systems, give execution permission to the executable scripts in bin and ant/bin. Use the command (from SYNCSEVER_HOME):

```
chmod +x bin/*.sh ant/bin/*
```
16. From SYNCSEVER_HOME, run:

```
bin/install.sh tomcat (bin\install.cmd tomcat)
```

(Make sure that the environment variables JAVA_HOME and J2EE_HOME point respectively to your JDK/JRE home and to your Tomcat home).
You will be asked if you want to create the database for SyncServer and some SyncServer modules. Respond yes ('y') to all questions.
17. Start Sync4j SyncServer: from SYNCSEVER_HOME run:

```
bin/start.sh (bin\start.cmd)
```
18. Point the browser to *http://<server>:<port>/sync4j* to check that Sync4j SyncServer is properly installed (you should get the welcome page).

3. Sync4j in action: the PIM demo

The simplest form of synchronization, and the one that made SyncML famous, is PIM (contacts and calendar) synchronization. Everybody has an address book. Most of us have more than one. In Outlook; on our phone; on our PDA; in a paper address book; in the Post-It on the fridge. The goal of a PIM synchronization solution is to get rid of the paper and have a single repository of your address book. You change a contact on Outlook, it is magically updated on your phone. You add one contact in your PDA, it is added in Outlook and on your phone.

To see the product in action, we will start with two demo tools:

1. The PIM Web demo
2. The SyncClient PIM demo

The PIM Web demo is a basic web interface to manage PIM data on a web server. It is meant for demo purposes. However, since the code is open source, you can also take it as an example to build your web interface.

The SyncClient PIM demo is a basic personal PIM interface, written in Java. Once again, it is meant for demo purposes but the source code is available, so you can build your own PIM client.

3.1. Your first synchronization

First of all, let's make sure the SyncServer is running.

If you installed the Sync4j bundle, you should see two green arrows in the Tray (lower right corner of your Windows screen). If the arrows are red, right-click with your mouse and select Start. If you do not see the arrows in the Tray, from the Start menu, select All Programs → Sync4j → SyncServer → Start.

If you installed the SyncServer unbundled, from SYNC_SERVER_HOME run `bin/start.cmd` (Windows) or `bin/start.sh` (Linux/Unix).

PIM Web demo

Now that the SyncServer is running, let us take a look at the PIM Web demo.

If you installed the Sync4j bundle, from the Start menu, select All Programs → Sync4j → PIM Web demo.

If you installed the SyncServer unbundled, connect your browser to <http://localhost:8080/pimweb>.

Your browser will display a page with three contacts (Brown Vincent, Doe John, Smith Mike). Clicking on one of the names, you will see the details. You can also similarly manage Calendar events (three are also pre-installed for this demo).

The contacts and events are information stored on the SyncServer for this demo.

SyncClient PIM demo

Now, let us start the SyncClient PIM demo.

If you installed Sync4j bundle in Windows, from the Start menu, select All Programs → Sync4j → SyncClient PIM demo. If you installed Sync4j bundle in Linux, run `<SYNC4J_HOME>/syncclient-pim-demo-1.0.x/demob.sh`. Finally, If you installed SyncServer unbundled, go in `<SYNC4J_HOME>/syncclient-pim-demo-1.0.x` and run `demo.cmd` (Windows) or `demo.sh` (Linux/Unix).

The SyncClient demo will start with an empty contact list, since it has never been synchronized with the SyncServer.

The first sync

Click on Synchronize at the bottom of the interface. You will see the client contacting the server in the Log Window. If you look at the log, it says "Returned 3 new items". The first synchronization was performed. If you click on OK at the bottom of the interface, you will see the three contacts that were stored on the server. They are now synchronized also on the client.

The second sync

Now change some information on the client. Click on a name, click on Modify, click on Personal and add a Home phone number. Press OK. Then press Synchronize. If you look at the log, it says "Detected 0 new items, 1 updated items, 0 deleted items". If you now go back to the PIM Web demo and click on the same contact, you will see that the Home phone number has been added.

More syncing: it works!

Now try to add a new contact on the PIM Web demo and see it appearing on the client after the synchronization. Or delete one contact on the client and see it disappearing on the server. You are testing a real synchronization, you saw Sync4j in action!

3.2. A step forward: synchronizing with Outlook

Now that you have the working server with a web interface and a client, it is time to add a new client to the mix. A common one is the SyncClient PIM Outlook. It allows you to synchronize your Outlook contacts and calendar information with the SyncServer. It works with Outlook 2002 and XP.

First of all, download the SyncClient PIM Outlook from www.sync4j.org. Please make sure to take the version included in 2.2. Install the application and from the Start menu, select All Programs → Sync4j → SyncClient Outlook → SyncClient Outlook.

NOTE: you are testing a demo. Your contacts and calendar info in Outlook will be modified. Please make absolutely sure you have a backup copy of your Outlook contacts and calendar information before you proceed.

Now click on Synchronize. You will probably see a window from Outlook, asking for the permission of accessing its PIM data. Allow access for 10 minutes, so you do not have to worry about that.

Once the synchronization is completed, the SyncClient Outlook will show the message "Synchronization successfully completed!". If you look in your Outlook contacts, you should see our three demo contacts (Brown Vincent, Doe John, Smith Mike). If you look in the PIM Web demo, you should see your contacts. Now try to modify them on both sides and click on Synchronize again.

3.3. The final goal: your phone synchronized with everything else

Now that you have the working server with a web interface and two clients, the final goal is to add your SyncML phone to the mix. There are hundreds of phones on the market with SyncML pre-installed. If you have one of them, you are ready to try it with SyncServer.

Enabling SyncServer for synchronization via the Internet

The first major issue is that with this release of Sync4j, the only supported mode of synchronization is over-the-air. That means your phone will connect through your carrier and via the Internet back to the SyncServer. If the computer where SyncServer is installed is not visible on the Internet, you cannot see it working. We would suggest you try with some of the Sync4j implementations available on the Internet, such as ScheduleWorld (www.scheduleworld.com).

If your computer is visible on the Internet, you need to know its IP address or hostname. Once you have it, make sure it works opening the page `http://<hostname_or_ip>:8080/sync4j`

Now you need to properly set the Server URI to point to your server: edit `<SYNCSERVER_HOME>/config/Sync4j.properties` and set

```
server.uri=http://<hostname_or_ip>:<port>/sync4j/sync
```

`<SYNCSERVER_HOME>` is probably `C:\Program Files\Sync4j\syncserver-4.0.x` if you installed Sync4j bundle.

Then, restart the server.

Configuring your cellular phone

The SyncML client configuration is quite different from phone to phone. Overall, there are some standard parameters you have to set.

First of all, make sure you can access your WAP Home Page and navigate. If you cannot do it, the phone is probably not configured for data access. In this case, you cannot synchronize your PIM data.

The standard parameters of a SyncML client are described in the following table.

<i>Property</i>	<i>Description</i>	<i>Value</i>
Server URI	<p>The address of the SyncServer for the synchronization. It has different names on different devices.</p> <p>Some devices call it Synchronization URL, some just URL, some Home or Homepage.</p> <p>In some cases, the port is kept separated. So you have to put the server URL without the :<port> and put 8080 in a separate field called PORT.</p> <p>Lastly, in some rare cases, the URI needs to be put without the leading http://</p>	http://<hostname_or_ip>:<port>/sync4j/sync
User	The user connecting to the SyncServer	guest
Password	The password for the user connecting to the SyncServer	guest
Contacts path	<p>The path to perform the contacts synchronization in SyncServer.</p> <p>In some cases, the phone will add the leading ./ so there is no need to put it.</p> <p>Often, you will be able to choose on your phone if you want to synchronize contacts (address book) or not.</p>	./contact
Calendar path	<p>The path to perform the calendar synchronization in SyncServer.</p> <p>In some cases, the phone will add the leading ./ so there is no need to put it.</p> <p>Often, you will be able to choose on your phone if you want to synchronize contacts (address book) or not.</p>	./calendar

The task of configuring a SyncML phone is time consuming and cumbersome. A complete list of all synchronization parameters for every phone tested with Sync4j will be soon available on the www.sync4j.org website. The next step will be to provide a way to configure phones over-the-air. Lastly, we are planning of adding a synchronization portal where you can synchronize your phone and other clients without the need of installing SyncServer.

Once the first synchronization is completed, if you look in your phone contacts list, you should see our three demo contacts (Brown Vincent, Doe John, Smith Mike). If you look in the PIM Web demo, you should see your contacts. Now try to modify them on both sides and synchronize again.

4. References and Resources

4.1. Resources

- [1] <http://java.sun.com/j2se>
- [2] <http://www.jboss.org>
- [3] <http://java.sun.com/j2ee>
- [4] <http://jakarta.apache.org/tomcat>