

# Tomcat Servlet Click2call Windows Setup

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Restcomm SIP Servlets Server can be run on a JBoss Application Server or on the Tomcat Servlet Container. Here is how to install and configure both JBoss a Microsoft Windows based system.

Tomcat Servlet running on Microsoft Windows The Restcomm Platform is based on Java, so you need to make sure you have both the Java Runtime Environment (JRE) and, or the Java Development Kit (JDK) installed on your Windows based system.

You can download the [Java Runtime Environment here](#) .

If you are a developer, you can get the [Java Development Kit here](#) . It is recommended that you install the latest version of JDK. You can opt for the JDK Java SE (Standard Edition) for test purposes. Once you have downloaded JDK, you will see an executable like the one below in your download folder.

- menu > Start > Run > CMD



Figure 1. Testing if Java is installed and running

- Jdk-(version)-windows-i586.exe

Name	Date modified	Type
 jdk-7u2-windows-i586.exe	3/27/2012 6:52 PM	Application

Figure 2. JDK executable file

JAVA\_Home enviroment variable. In order for applications to interact with your Java installation, you need to specify the install location by setting the JAVA\_HOME environment variable. Start the 'cmd' without the quotes and press Enter

Start > Run > cmd

In the CMD window, type

Set JAVA\_HOME=C:\Java\jdk1.7.0\_02



Figure 3. Set environment variable

This will set the environment variable for your session. The `C:\Java\jdk1.7.0\_02` is the root folder where your JDK files are installed. You can go to [this Microsoft page](#) to see how set your environment variable and make it permanent. If you want to make sure the JDK environment variable is set, type

```
c:\> Set
```

Installing Restcomm Tomcat on Windows. It is recommended that you install the latest Restcomm Sip Servlets. You can download the [DOWNLOAD\\_LINK;link:\[ SIP Servlets for Tomcat here \]](#) Make sure you download the latest Tomcat and not the JBoss.

Name	Description	Server	Size	Released	License		
1.6.0.FINAL	Certified (Recommended)	JBoss 5.1.0.GA-jdk6-full	180MB	11th-August-2011	GPL (includes Mobicents Diameter and Media Server)	<a href="#">Download</a>	<a href="#">Notes</a>
1.6.0.FINAL	Certified (Recommended)	JBoss 5.1.0.GA-jdk6-LGPL	135MB	11th-August-2011	LGPL (does NOT include Mobicents Diameter and Media Server)	<a href="#">Download</a>	<a href="#">Notes</a>
1.6.0.FINAL	Certified (Small)	Tomcat 6.0.32	20.9MB	11th-August-2011	LGPL	<a href="#">Download</a>	<a href="#">Notes</a>
2.0.0.ALPHA2	Certified	Tomcat 7.0.8	22.6MB	19th-April-2011	LGPL	<a href="#">Download</a>	<a href="#">Notes</a>
1.5.0.FINAL	Certified (Recommended)	JBoss 5.1.0.GA-jdk6-full	180MB	22th-December-2010	GPL (includes Mobicents Diameter and Media Server)	<a href="#">Download</a>	<a href="#">Notes</a>

Figure 4. Download Restcomm SIP Servlets for Tomcat

The downloaded file will appear similar to this screenshot below



Figure 5. Downloaded Tomcat File

The extracted file will look similar to this folder

Folders	Name	Date modified	Type	Size
tomcat	bin	3/30/2012 12:28 AM	File Folder	
mss-1.6.0.FINAL-apache-tomcat-6.0.32	conf	3/30/2012 12:30 AM	File Folder	
bin	docs	3/30/2012 12:28 AM	File Folder	
conf	lib	3/30/2012 12:28 AM	File Folder	
docs	logs	3/30/2012 12:30 AM	File Folder	
lib	temp	3/30/2012 12:28 AM	File Folder	
logs	webapps	3/30/2012 12:30 AM	File Folder	
temp	work	3/30/2012 12:30 AM	File Folder	
webapps	JAIN_SIP.LICENSE	8/11/2011 1:02 PM	LICENSE File	7 KB
work	LGPL-LICENSE.TXT	8/11/2011 1:02 PM	Text Document	27 KB
	LICENSE	2/2/2011 8:04 PM	File	38 KB
	MOBICENTS-LICENSE....	8/11/2011 1:02 PM	Text Document	8 KB
	NIST_SIP.LICENSE	8/11/2011 1:02 PM	LICENSE File	1 KB
	NIST-CONTRIB-LICEN...	8/11/2011 1:02 PM	Text Document	1 KB
	NOTICE	2/2/2011 8:04 PM	File	1 KB
	RELEASE-NOTES	2/2/2011 8:04 PM	File	9 KB
	RUNNING.txt	2/2/2011 8:04 PM	Text Document	7 KB
	TOMCAT-SIP-SERVLET...	8/11/2011 1:02 PM	Text Document	2 KB

Figure 6. Content of Tomcat Directory

Once you have extracted the content of the MSS Tomcat server zip file, you need to set the CATALINA\_HOME environment variable. Open the 'cmd' window

```
Start > run > cmd
```

In this example, the environment variable is set as follows:

```
set CATALINA_HOME=C:\tomcat\
```

Start the MSS Tomcat Server The \bin directory in the root of your Tomcat folder holds the executables you need to work with the MSS server application. To start the server, you need to execute the startup.bat file. First, start the cmd window as follows:

```
Start > run > cmd
```

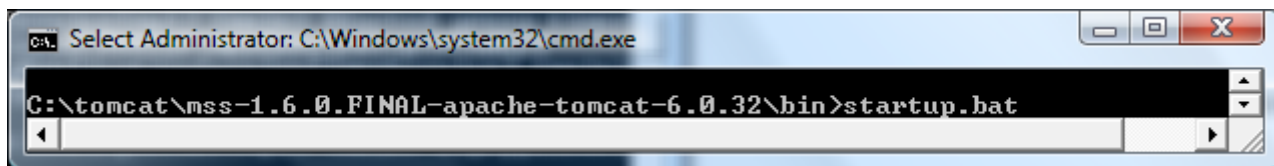
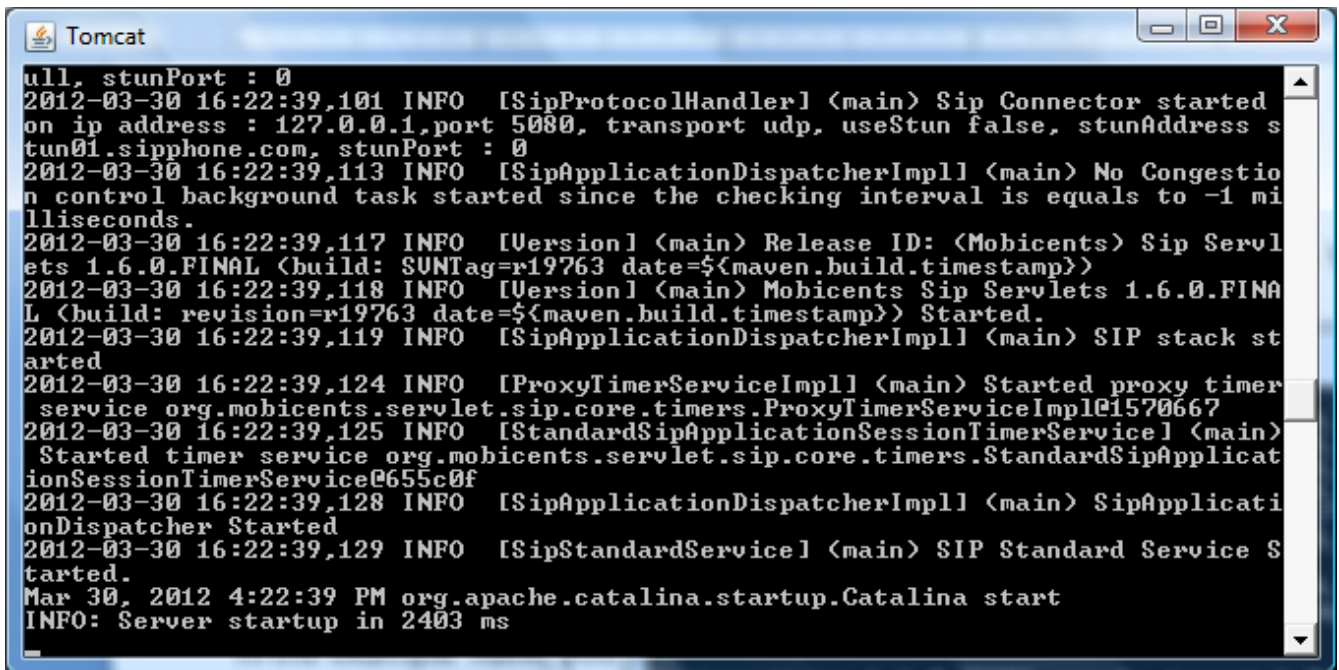


Figure 7. Start Tomcat Server

This will open another cmd.exe window similar to the one below

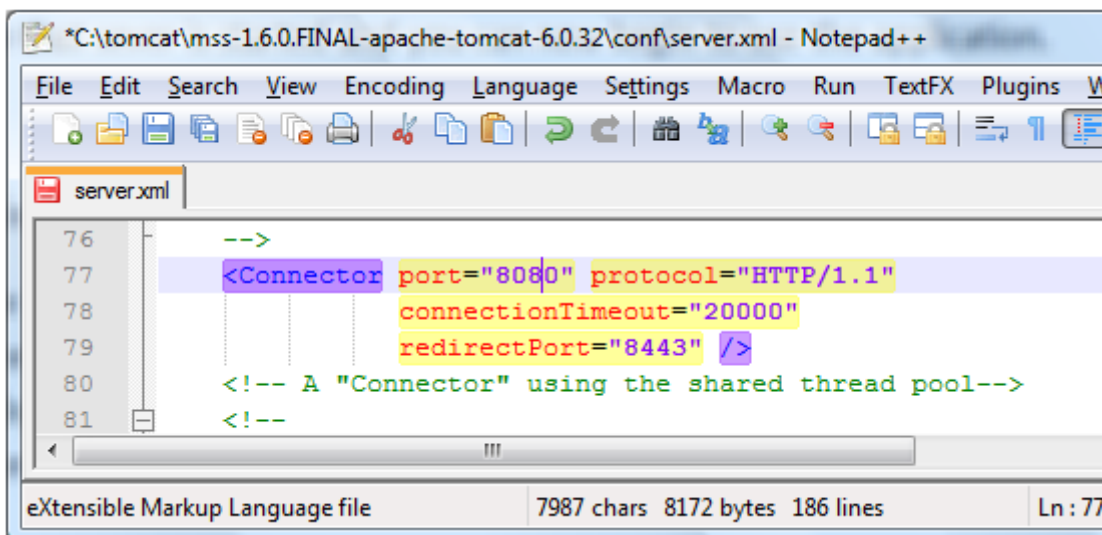
A screenshot of a Windows console window titled "Tomcat". It displays the startup logs of the Apache Tomcat server. The logs show various INFO messages from different components like SipProtocolHandler, SipApplicationDispatcherImpl, Version, ProxyTimerServiceImpl, StandardSipApplicationSessionTimerService, and SipStandardService. The logs indicate that the server has started successfully. The timestamp of the logs is 2012-03-30 16:22:39. The final line of the log shows "INFO: Server startup in 2403 ms".

```
ull, stunPort : 0
2012-03-30 16:22:39,101 INFO [SipProtocolHandler] <main> Sip Connector started
on ip address : 127.0.0.1, port 5080, transport udp, useStun false, stunAddress s
tun01.sipphone.com, stunPort : 0
2012-03-30 16:22:39,113 INFO [SipApplicationDispatcherImpl] <main> No Congestio
n control background task started since the checking interval is equals to -1 mi
lliseconds.
2012-03-30 16:22:39,117 INFO [Version] <main> Release ID: <Mobicents> Sip Servl
ets 1.6.0.FINAL <build: SUNTag=r19763 date=${maven.build.timestamp}>
2012-03-30 16:22:39,118 INFO [Version] <main> Mobicents Sip Servlets 1.6.0.FINA
L <build: revision=r19763 date=${maven.build.timestamp}> Started.
2012-03-30 16:22:39,119 INFO [SipApplicationDispatcherImpl] <main> SIP stack st
arted
2012-03-30 16:22:39,124 INFO [ProxyTimerServiceImpl] <main> Started proxy timer
service org.mobicents.servlet.sip.core.timers.ProxyTimerServiceImpl@1570667
2012-03-30 16:22:39,125 INFO [StandardSipApplicationSessionTimerService] <main>
Started timer service org.mobicents.servlet.sip.core.timers.StandardSipApplicat
ionSessionTimerService@655c0f
2012-03-30 16:22:39,128 INFO [SipApplicationDispatcherImpl] <main> SipApplicati
onDispatcher Started
2012-03-30 16:22:39,129 INFO [SipStandardService] <main> SIP Standard Service S
tarted.
Mar 30, 2012 4:22:39 PM org.apache.catalina.startup.Catalina start
INFO: Server startup in 2403 ms
```

Figure 8. Tomcat Server Started

Note that the server is started and you can now begin to use the application.

Once the MSS Tomcat server is up and running, you should be able to go to <http://localhost:8080/> and see the web server in action. If the page doesn't open or you get an error message saying page is not found, the 8080 port might be in use by another service. You will have to change the port in the server.xml file located in the c:\TOMCAT\_ROOT\_FOLDER\conf\server.xml. You will need a text editor like Notepad++ to change the connector. Here is a screenshot of the server.xml file with the default port 8080.

A screenshot of the Notepad++ text editor showing the server.xml file. The file is located at C:\tomcat\mss-1.6.0.FINAL-apache-tomcat-6.0.32\conf\server.xml. The editor shows the XML configuration for the HTTP connector. The port is set to 8080. The XML snippet is as follows:

```
76      -->
77      <Connector port="8080" protocol="HTTP/1.1"
78                connectionTimeout="20000"
79                redirectPort="8443" />
80      <!-- A "Connector" using the shared thread pool-->
81      <!--
```

Figure 9. Tomcat Default Http Port

The port number must be higher than 1024. In the example below, the port number for the connector has been change to 8040

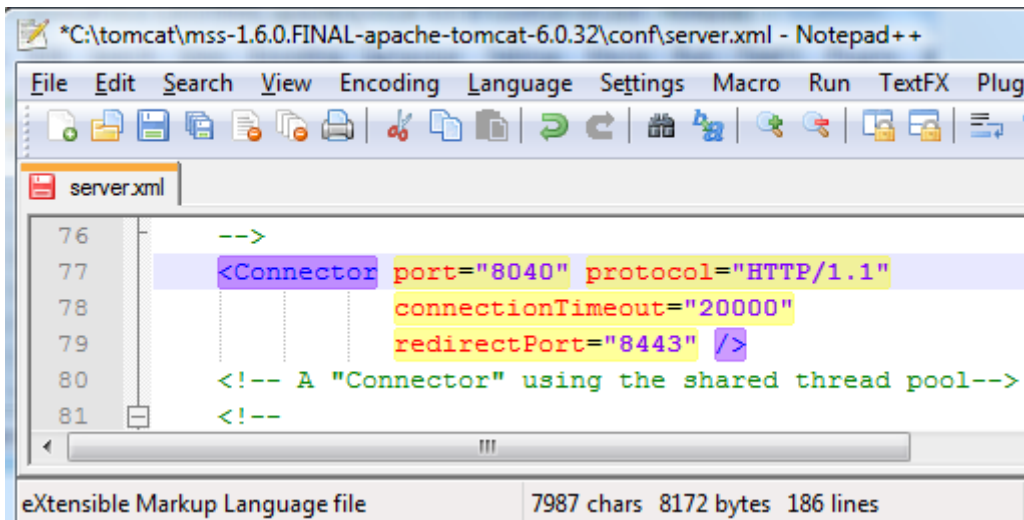


Figure 10. Change Default Http Port to 8040

You can use your internet browser to see the result by going to ` <http://localhost:8040> ` You will see a page similar to the screenshot below



Figure 11. Localhost Homepage

In order to manage the Click2call sip servlet clients, you need to navigate to the ` <http://localhost:8040/click2call> ` If you get an error message that says, page cannot be displayed, you need to make sure the MSS Tomcat server is running by executing the startup.bat file in the ` MSS\_Tomcat\_root\_folder\bin\startup.bat ` Here is a screenshot of what the Click2call applet will look like without any registered soft phone clients



Figure 12. Click2call Homepage

At the moment there are no registered users. That is because you need to get the softphone clients to register with the Tomcat server you started above. You need to install a minimum of two soft phones in order to be able to run the sip servlet Click2Call sample. In this example, we shall be using 2 soft phones clients, \_ WengoPhone and 3CXPhone. \_ Download the latest version of the soft phones, install and configure them like the screenshots below:





Figure 13. Wengo Softphone Configuration

You can use any username and password you desire. The MSS Tomcat server is listening for calls on the \_ 127.0.0.1:5080 port \_

\_ Configuring the 3CXPhone \_ After the installation is complete, you can start up the 3CXPhone, you will see the screen below prompting you to create a profile. Click on the Create Profile Button.

### 3CXphone Profile

image::images/click2call\_3cxphone\_softphone\_profile.png[] In the Accounts window choose the \_ 'New' \_ button and configure as follows

Account settings

Account name: testphone2

Caller ID:

Credentials

Enter your SIP account credentials

Extension: testphone2

ID: testphone2

Password:

My location

Specify the IP of your PBX/SIP server

☒ I am in the office - local IP 127.0.0.1:5080 of PBX

☐ I am out of the office - external IP of PBX

☐ Use 3CX Tunnel

Eliminates firewall configuration. Requires 3CX Phone System for Windows

Local IP of remote PBX: 127.0.0.1

Tunnel password: \*\*\* Port: 5090

☐ Use Outbound Proxy server

Required by some VoIP Providers. Specify IP or name.

☐ Perform provisioning from following URL:

http://

Advanced settings OK Cancel

Figure 14. 3CXphone Softphone Configuration

Once the 2 soft phone clients are configured with the SIP details, you can go back to the <http://localhost:8040/click2call/index.jsp> page and you will see the clients registered with the server.



Figure 15. Registered Sip Clients

Before you can make calls, you will need to specify the contact details of the person you want to call. It is just like entering the phone number. Because this is a SIP based setting, you will need to enter the SIP address instead of the phone number.

\_ Testing the Soft Phones on Click2Call\_ In order to be able to make a call from one phone to the other, you need to create a contact user. Because you will be using the SIP protocol, you will need to type the contact details with the testphone1 SIP pointing to the

testphone2@127.0.0.1

WengoPhone - Edit Contact

General Details Notes

Contact

Group: Tomcat

First Name: Testphone2

Last Name:

Phone Numbers

Network IDs (MSN, Jabber...)

Wengo ID:

MSN ID: Update your profile

AIM/ICQ ID: Update your profile

Yahoo! ID: Update your profile

Jabber/GoogleTalk ID: Update your profile

SIP ID: testphone2@127.0.0.1:5080

exemple: username@server

Advanced >>

Save Cancel

Figure 16. Wengo Phone Contact User Details

You need to do the same on the 3CXPhone contact. The phone contact number will be

sip:testphone1@127.0.0.1:5080



*Figure 17. 3CXPhone Contact User Details*

Once you have both contact sip details configured, you can start to make calls and fully use the Click2call application.