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# 1 Introduction

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**This manual is intended to be used by an IT specialist that will be installing and administrating the 12Planet Chat Server software.**

## Typographic conventions:

### 1. Procedure style

- Result of a step action or description of what will appear on screen after a step action
- Unordered lists or alternative solutions
- ▭ Warning
- ▭ Tips and advice

All values quoted between [ and ] brackets are variables you should replace by their true values. Ex: replace [install\_path] by C:\Program Files\12Planet Chat Server v2.5.1 if you installed the chat server in the directory C:\Program Files\12Planet Chat Server v2.5.1

**Bold:** menus, buttons, windows, field names, window zone, check boxes

*Italic:* documents the reader is suggested to refer to

`Courier:` command names, directory file names

## 2 Server requirements

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### 2.1 Hardware requirements

Most server hardware configurations are powerful enough to host the 12Planet Chat Server. A minimum configuration is:

- Pentium II 500 MHz
- 128 Mo of RAM is suggested.
- Hard disk

Adding extra RAM and processors will improve the performance.

### 2.2 Java Virtual Machine (JVM) requirement

A Java Virtual Machine (JVM), or a Java Developer Kit (JDK), fully compliant with the Sun JDK 1.1.x or 1.2.x or 2.x.x is required in order to run 12Planet Server.

The bellow installation will provide automatically a JVM if is not already installed.

### 2.3 Port requirements

The software uses by default the following ports:

- Port 8080
- Port 7218
- Port 10080

It is possible to change these ports.

## 3 Installation Procedure

ATTENTION: Logon as administrator on your server

Select the installation procedure from the installation page that meets your server requirement: OS requirement and JVM requirement

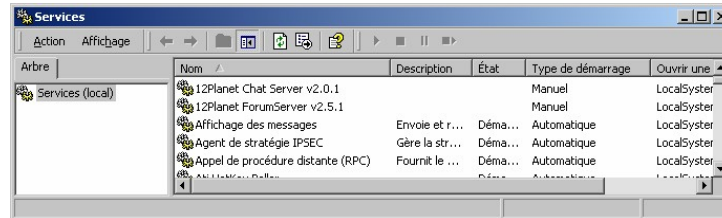
Follow the step by step instructions, replace [installation\_path] by the value of the directory used to install the software.

### 3.1 Starting the server software

#### 3.1.1 Windows NT/2000/XP: Windows Service mode

You may want to install 12Planet Chat Server as a Windows NT service on a production machine. In such a case it will be automatically loaded and started each time you reboot your server.

Below is a sample screenshot of what you should be seeing once the Windows Service has been installed (automatically done by installation)



#### 3.1.2 Windows NT/2000/XP: console mode (DOS window)

- Open a DOS Window
- Type in: `cd [installation_path]`
- Type in: `start.bat`

#### 3.1.3 Unix/Linux: quick start

- Open a shell or a Telnet session
- Type in: `cd [installation_path]`
- Type in: `java infostart`

The 12Planet Chat Server is now started.

#### Tip

If you have problem, then ask to your Unix administrator how to run a java software, he will provide you a command line like:

```
[full_path_to_/bin/java] infostart
```

or if you use the bash shell:

```
[full_path_to_/bin/java] -classpath  
[full_path_to_"classes.zip"]:. infostart
```

```
ex1: java -classpath $CLASSPATH:. infostart
```

```
ex2: /usr/local/jdk1.1.8/bin/java -classpath
     /usr/local/jdk1.1.8/lib/classes.zip:. infostart
```

### 3.1.4 Unix/Linux: advanced starting

Once you have configured the server properly, you may want to:

- Keep your 12Planet Chat Server running continuously even after you closed your Unix telnet session. To do that type in the telnet window, make sure to add the “&” symbol:

```
[full_path_to_/bin/java] infostart &
```

- Boot up easily the 12Planet Chat Server each time your server machine is restarted. To do that you need to create a Unix shell script. For more details, please read: *Installation (advanced) Guide*

To use the “bash” shell, in order to run the Java based program ClassFileName.class with the environment variable CLASSPATH, you need to type in:

```
java -classpath $CLASSPATH:. ClassFileName
```

- Java is case-sensitive, so typing “java InfoStart” is DIFFERENT from “java infostart”!

Tip : if your need to check the version you need, you need to type `java -version`

## 3.2 Running test

To check that 12Planet Server is running: open in your web browser the link

<http://yourserverIP:10080/status?> (distant testing)

Or <http://127.0.0.1:10080/status?> (local testing)

Or <http://127.0.0.1:XYZ/status?> (if you have change the default http-tunneling port to XYZ)

Descriptive of what’s going on : The browser should display a blank page with the message: “12Planet Server Running”.

Otherwise, your server is not running correctly. In such a case, you should check error messages:

- 1- Make sure in the DOS prompt or Unix shell window that the Chat Server is running: last line should be “12Planet Server is Ready”
- 2- Check with your server administrator that default port (port 7218 for socket and port 10080 for HTTP tunnelling) are open. With unix you may use the command: `nmap server_IP`
- 3- Check error messages in the log files in the directory:  
`[installation_path]\logs\`

If you need technical support, please always send us those messages.

At this stage 12Planet Chat Server is running. You can open the web console and do most administration operations from there.

## 3.3 Opening the server web console

Open the link in your web browser

`http://[your_server_ip]:8080` (any computer)

`http://127.0.0.1:8080` (local access only)

`http://localhost:8080` (local access only)

Or `http://[your_server_ip]:[web_port_number]` (if you have changed the default web port value of 8080 to “[web\_port\_number]”)

## 4 Website integration procedure

---

You need to use the information presented here only if you want to manually configure the deployment of your chat rooms. Otherwise, please use the options provided through the web console instead.

### Warning

- Do not modify this directory and subdirectories structure: [INSTALLATION DIRECTORY]/www/12p\_applet/
- Keep applets and HTML page have on the same server because of security restrictions over Java applets: Java applets can only connect to a server from which they've been loaded.

You can do it with the wizard or manually in following the bellow procedure.

Step1: Include in the HTML code of the web page the following code (minimum code):

```
<APPLET mayscript code=ChatClient
codeBase="http://[yourserver.com]:[web_port_number]/12p_applet/bin/"
height=400 width=565>

<PARAM NAME="classPath" VALUE="onetoplanet.client.ui.std.floatGuts">
<PARAM NAME="cabase" VALUE="fchaplet.cab">
<PARAM NAME="archive" VALUE="fchaplet.jar">

</APPLET>
```

Step2: Set in the previous code the parameter:

PARAM NAME	VALUE Type	VALUE Description
codebase	URL	Complete URL of the location of client Java applet

Step3: advanced configuration of the applets. Use the applet parameters to do any advanced configuration. (communication features and look). For full details about parameters, please, refer to: *Installation (advanced) Guide / Web Site Integration Section*.

## 5 12Planet Server Configuration

### 5.1 Server runtime basic configuration

1. Edit the file:

[INSTALLATION DIRECTORY]/conf/runtime.conf

2. Modify any of the parameters

# sign at the beginning of a line defines a comment line

Parameter	Type	Description
<b>Language</b>		
Language	String	Language to be used for default server output. The available languages are listed in file: conf/langlist.ini The language resource file is: languages/a_lang/serverres.txt

3. Save the modified file
4. Stop 12Planet Server
5. Restart 12Planet Server

### 5.2 Server runtime advanced configuration

1. Edit the file

[INSTALLATION DIRECTORY]/conf/eliveserver.conf

2. Modify the parameters of the file using the table below:

Parameter	Type	Description
<b>Log files &amp; output messages</b>		
display	y/n	Should the server display the output to the console? (For debugging purpose)
verbose	y/n	Should the log file be verbose?
system_message	y/n	Should the server send system messages to the chat client?
debug	Y/n	Should the server display detailed debug information?
chatlog	y/n	Should all the conversations to be logged in the chatlogYYYYMD.txt files?
maxloglen	Number	Maximum size (Ko) of the log file before the logger opens up automatically another log file
<b>Threads</b>		
nbsender	Number	Number of threads used to send messages to 12Planet Clients
nbreceiver	Number	Number of threads used to receive messages from 12Planet Clients The server uses up 99% of the CPU when it thinks it has too many requests for the number of threads it owns (available threads < 40). So set it to 240 for

Parameter	Type	Description
		example if you expect to have on average 200 users on the server.
nbprocessor	Number	Number of threads used to process messages from 12Planet Clients
<b>Communication ports</b>		
port	Number	Port used by 12Planet Server for direct socket protocol, as main communication protocol (default = 7218) If modified, add/modify the line in the HTML page: <PARAM NAME="connectorport" VALUE="XYZ">
httpport	Number	Port used by 12Planet Server for HTTP tunneling protocol, as back-up communication protocol (default = 10080) If modified, add/modify the line in the HTML page: <PARAM NAME="connectorhttpport" VALUE=" XYZ ">
<b>Connection mode</b>		
httptimeout	number	Expiration time (ms) after which 12Planet Chat Server will close an idle HTTP tunneling user. Modify this value if you have timeout issues.
keep_alive	y/n	Should the HTTP tunneling server keep connections alive? (it offers faster communication to the chat client) Set it to "n" if you have many users or if you have time out problems not solved by the httptimeout parameter
optimise_sock	y/n	Should the server use optimized sockets? (It may not work with some JDK)
<b>Users database management (only available in Premium Edition)</b>		
database	String	Internal database name
userdb	y/n	Should the server write into a JDBC database, in real-time, whether a user is connected? Using this option may slow down the Chat Server (available only in OEM Edition)
<b>Users management</b>		
user_queue_timer	y/n	Should the timer count the number of seconds from the last time a chat admin whispered to the user? The user list is displayed ordered from the most waited user to the least

# sign at the beginning of a line defines a comment line

3. Save the modified file
4. Stop 12Planet Server
5. Restart 12Planet Server

### 5.3 Chat-group management

To define a chat-group and its parameters, please follow the instructions below:

1. Edit the file

2. [INSTALLATION DIRECTORY]/conf/grouplistserver.txt
3. Modify any text line of the file with respecting the following syntax to define the properties of a chat channel

Rule	Objective	Syntax
Rule 1	Define a channel name property by creating a text line using the syntax displayed on the right	<pre>\$a_chat_group\$a_chat_room</pre> <ul style="list-style-type: none"> <li>□ Example1 <pre># \$*\$*      is the default server setup</pre> </li> <li>□ Example2 <pre># \$*\$room  is the default room setup</pre> </li> <li>□ Example3 <pre># \$group\$*  is the default group setup</pre> </li> <li>□ Example4 <pre># \$group\$room      is the channel setup</pre> </li> </ul>
Rule 2	set a channel property	<code>\$a_chat_group\$a_chat_room:property1=parameter1;property2=parameter2;property3=parameter3</code>
Rule 3	Set a priority rule	<pre>\$group\$room &gt; \$group\$* &gt; *\$room &gt; \$*\$*</pre>

Parameter	Type	Description
Chatgroup_name	String *	Name of the chat-group for which you will set up the control properties in this line.  * sign means you will set up the default control properties in this line for all the groups of the server.
Subroom_name1	String *	Name of the chat-room within the chat group for which you will set up the control properties in this line.  * sign means you will set up the default control properties in this line for all the rooms of the group.
type	String	Default status of channel: not moderated (std) or moderated (mod)  (Default value is: std)
admin	String -	Password to administer this chatgroup_name  Format pass1 or  pass1 pass2 ...  The "-" sign means no administrative password is defined.

Parameter	Type	Description
pass	String -	Password to log into any chat-rooms from chatgroup_name chat-group. “-“ sign means no room password is required.
site	String	Web site from which it is authorized to connect to the chat group: domain name WITHOUT the leading www. Format site1[ ;site2]...
max	Number -	Maximum number of simultaneous users authorized in the chat group. “-“ sign uses the default 15 users limitation value. If omitted, it means the value is the immediate superior default value (defined for the *).
history	number	The number of lines of previous chat messages that should be displayed automatically when an user joins a room
modpriv	y n	define whether private chat is authorized or not
status	String	open/closed, defines whether user may join this room
log	String	on/off, defines whether a separate log file should exist for the chat room
history	Number	define the number of lines of messages that should be kept by the server and pushed to the users when they first join the chat room
relogin	String	yes/no, defines whether a user may use the auto nickname resolution system to join this chat room using a nickname that's already in use in the Chat Server.
inputplugin	String	Plugins that filters raw messages that come into the Chat Server, if several filters are defined, the message will go through successively through the list of plugins. Only available with the Enterprise edition of the software.  plugin1 or plugin1 plugin2... pluginnames are defined in the Chat Server.conf file where pluginname=JavaClassName, ex: translationplug=plugins.Translator
outputplugin	String	Plugins that filters raw messages that go out from the Chat Server, if several filters are defined, the message will go through successively through the list of plugins. Only available with the Enterprise edition of the software.  Plugin1 or plugin1 plugin2... pluginnames are defined in the Chat Server.conf file where pluginname=JavaClassName, ex: translationplug=plugins.Translator
bot	String	Each bot is linked to a chat room. Each bot may accomplish used defined work within a separate thread and send messages to the room.  bot1 or bot1 bot2 ... botnames are defined in the Chat Server.conf file where botname=JavaClassName, ex: bot1=services.BasicService

#### 4. Save the modified file

5. Once the file has been modified, the changes will be automatically taken into account every 5 minutes.
6. in the chat room, become an administrator first (/admin your\_admin\_password\_defined\_for\_the\_\$\$\*\_chat\_room), then type in the command line: /restart

Example	Parameters	Description
□ Example1	<code>\$\$*:admin=myspass;pass=- ;site=mysite.com;max=50;history=0</code>	<p>Mypass is the admin pass for the WHOLE server.</p> <p>No password is required by default to join a chat-room</p> <p>By default, the chat rooms can only be used on mysite.com</p> <p>By default, a maximum of 50 users per chat group is allowed</p> <p>By default, 0 line of old messages will be displayed to new users</p>
□ Example2	<code>\$Userdom1.com\$:admin=adminpass;pass=join_pass;max=10</code>	<p>Laminas are the admin pass for the chat group userdom1.com.</p> <p>Join pass has to be entered in order to chat in this chat group</p> <p>By default, the chat rooms can only be used on the default site defined for the chat group "*" which is mysite.com</p> <p>A maximum of 10 users is allowed for this chat group</p>
□ Example3	<code>\$English\$:admin=adminpass2;pass=-;site=site1.com</code>	<p>Adminpass2 is the admin pass for the chat group english.</p> <p>No password is needed to enter in this chat group</p> <p>By default, the chat rooms can only be used on the site1.com web site</p> <p>The default number of maximum users has to be used which is 50 on this Chat Server.</p>

#### 5.4 Connection port configuration

The configuration of connection ports depends on how you have organized softwares on your machine(s) / on where you want to install the 12Planet Chat Server as described in section 2.4.1 and 2.4.2. As for proxy and firewall support, please refer to 2.4.3.

By default, the following ports must be authorized by your firewall:

Name of port in configuration file	Default value	Description
port	7218	<p>Port for direct socket protocol, main protocol (in Chat Server.conf)</p> <p>If modified, add/modify the line in all the HTML pages: &lt;PARAM NAME="connectorPort" VALUE="XYZ"&gt;</p>

httpport	10080	Port for HTTP tunneling, back-up protocol (in Chat Server.conf) If modified, add/modify the line in all the HTML pages: <PARAM NAME=" connectorHttpport" VALUE=" XYZ ">
webport	8080	Port for optional internal HTTP web server (in eliveweb.conf)

#### 5.4.1 Configuration 1: 12Planet Chat Server & Web server on the same machine

The firewall must authorize all the required port for 12Planet Chat Server.

If you have other requirements please contact: [sales@12planet.com](mailto:sales@12planet.com)

#### 5.4.2 Configuration 2: 12Planet Chat Server on a dedicated server IP-machine

The firewall should authorize all the required port for 12Planet Chat Server. You might re-use port 80 for HTTP tunneling.

#### 5.4.3 Proxy and firewall support

*For advanced tools for firewall integration, please ask for 12Planet Server Developer Toolkit*

### 5.5 Log messages into a SQL database

We can record automatically chat transcript for each chat room into a separate plain text log file. You can then manually or automatically import those log files using any adequate tool and publish them into SQL database.

To add the log option to all the chat rooms, modify in the chat rooms configuration file (12Planet Chat Server v2.5.1\conf\grouplistserver.txt) the following line

```
$$$*:type=std;pass=-
;max=10000;admin=|admpass|aze|;status=open;log=off;history=0;plugin=std;relogin=yes;mod
priv=n
```

to

```
$$$*:type=std;pass=-
;max=10000;admin=|admpass|aze|;status=open;log=on;history=0;plugin=std;relogin=yes;mod
priv=n
```

save the file and restart the server. All messages should now be logged into the 12Planet Chat Server v2.5.1\logs\ directory, the log file carries the name of the logged chat room.

### 5.6 Log file administration

#### 5.6.1 Log files

All log files are generated in:

[INSTALLATION DIRECTORY]\logs\

##### 5.6.1.1 Server general log file

- Name: chatlog[sequence number].txt
- Generation: one for server, activated by parameter chatlog from file: `eliveserver.conf`
- Content: every talked-messages and system messages
- Note: slow down the server, not appropriate for very busy server

### 5.6.1.2 Connection log file

- Name: wwwlog[sequence number].txt
- Generation: one for server, automatic
- Content: All connections to 12Planet Server

```
URL_of_calling_page;langage;sock;0;2;0;0;Fri May 05 16:38:53
GMT+02:00 2000
```

### 5.6.1.3 Chat transcript log file

- Name: [chat-group][chat-room][sequence number].txt
- Generation: one per chat-room, need to be activated by administrator
  - Log on as administrator: /admin adminpass
  - Switch on: /logchat
  - Switch off: /logstop

- Content: All messages from this chat-room

```
[chat_group/chat_room];[user];[IP_adress@number]: say|message_text
```

## 5.6.2 Log files generation

Log file are cached and flushed every 5 minutes. To force a flushing of the data, in the command window while connected as administrator type in:

```
/flush
```

## 5.7 Virtual Chat server administration

Virtual Chat Server are managed by file:

```
[INSTALLATION DIRECTORY]/conf/key.txt
```

## 5.8 Security administration

Java applet loading security is managed by files:

```
[INSTALLATION DIRECTORY]/conf/blacklist.txt
```

```
[INSTALLATION DIRECTORY]/conf/bannedip.txt
```

API security is managed by file:

```
[INSTALLATION DIRECTORY]/conf/trustedip.txt
```

## 5.9 Fail over management

Fail over is managed by:

- From 12Planet Client side: parameter of chat client applet <PARAM name="sessionOnfailurl" value="URL\_name">. When a user cannot connect to the server then the onfail URL is automatically opened. This URL can be used to establish a connection to a second server or to redirect toward a rescue page.
- From 12Planet Chat Server side: at any time once can test the activeness of the server by HTTP request: [http://server\\_name:10080/status?](http://server_name:10080/status?) Result is "12Planet Server is running" or a blank page. This message can be caught and integrated in a fail over application like in advanced webserver.

For other fail over management, please ask for *12Planet Server Developer Toolkit*.

## 5.10 Scalability and load balancing

*For advanced tools for load balancing management, please ask for 12Planet Server Developer Toolkit*

### 5.10.1 Number of concurrent users

12Planet Chat Server has been highly optimized (over 4000 messages sent per second can be achieved on a PIII 1 Ghz machine), it's possible to setup very reliable chat services.

The number of concurrent users connected to 12Planet Server is limited by your license. Please contact [solution@12planet.com](mailto:solution@12planet.com) for upgrading).

The following keys define an optimized tuning of capacity of server:

- Leap size (should be as big as supported by your configuration)
- File descriptor number (should be as big as supported by your configuration)
- Thread number (should be as big as supported by your configuration)

There are no general rules: these parameters depend on your OS and JVM choices.

### 5.10.2 Chat service quality

The principle is to optimize thread management of the server.

The generated load on one server depends on the behavior of users: the more users per rooms there are, the more capacity you need on hardware server (many small rooms require less resources than one very large room).

To improve speed you may, follow the instructions below:

- optimize the number of threads used by 12Planet Chat Server: number of threads used by 12Planet Server is defined in the file:

[INSTALLATION DIRECTORY]/conf/eliveserver.conf

The server uses up to 99% of the CPU when it is dealing with too many requests for the number of threads it owns (available threads < 40), this is related to the thread setup in the conf/eliveserver.conf file. So please modify the line `nbreceiver=[value]` and set [value] to a high value (higher than the number of simultaneous connections you expect) on Windows NT/2000/XP server machines. On Linux machines, you should on the contrary keep [value] under 50 as high thread value substantially diminish the server speed on Linux.

- Increase RAM, if necessary
- Use a multiprocessor hosting machine
- Optimize the network connection (network card device / bandwidth...)

□ If you want to offer a satisfactory chat-service for more than 5000 users, we suggest you add more server machines.

### 5.11 Bandwidth for server

The used bandwidth by server depends on the way chat-rooms are used. Keys to estimate **bandwidth for a standard community chat room** are listed below:

- Number of people per room: example, about 20 persons in one room
- Number of messages: example, about 1 message send by one user every second (technical and user messages)
- Average size of messages: it is about 0.5ko

The server needs about  $(20 \text{ sent messages by server per second}) * 0.5\text{ko}/1\text{sec} = 10\text{ko}/\text{sec} = 80\text{kbps}$  for optimum using.

#### Bandwidth necessary for a chat event

**Q:** How does one go about calculating the required upstream and downstream bandwidth requirements for an event such as the following:

1 hour duration,

expected audience - 5000 (simultaneous connections)

java chat client will need to be downloaded by participants

**R:** for such an event, there will be typically 3 types of users:

- visitor
- guest
- moderator

The network traffic generated will be the following:

- when all the users arrive to the chat page, they download the chat applet:

server -> user 5002 downloads

- when a visitor posts a message, the message will be sent to the moderator

ex:

each user sends a message every 10 minutes

visitors -> server  $5000 * 6 = 30\ 000$  messages during one hour

server -> moderator 30 000 messages

- if the moderator posts one message every minute

moderator -> server  $1 * 60 = 60$  messages during one hour

server -> visitors  $60 * 5000 = 300\ 000$  messages

- if the guest posts a message once a minute

guest -> server  $1 * 60 = 60$  messages during one hour

server -> visitors 60 \* 5000 = 300 000 messages

So the total upstreaming traffic will be 30 120 messages \* 0.5kb = 15 Mb

and the downstreaming traffic will be 630 000 \* 0.5kb + 5002 \* 50kb = 300 Mb + 250Mb = 550 Mb