

# **iPush<sup>®</sup> Server V2.5 - Standalone**

## **Push4Free Edition**

**(Since Build 250)**

## **Installation Guide**

**for Linux Red Hat / Fedora Core / Red Hat Enterprise / CentOS**

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*Version: 2.1*

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## 1. System Requirement for Installation

### Hardware Requirement

CPU: **Pentium III** or above

Memory: **256 MB** or above

Hard Disk Space: **1 GB** or above (the complete installation requires 4.5 MB, 3<sup>rd</sup>-party software not included)

Network Card: **Ethernet 100 Mb/Sec. ~ Gb/Sec.**

### Operating System

**Linux** (support Kernel 2.4 or 2.6; recommend Red Hat 8, Fedora Core 3, or CentOS 4/5 distributions)



The following installation procedures are applied to Red Hat 8, Fedora Core 3, and CentOS 4.



You must have the **root** access right to process installation of iPush Server.

### BackOffice Execution Environment (recommended)

**J2SDK** (Java 2 Software Development Kit, Standard Edition, v1.4.2\_xx)

**Apache Jakarta-Tomcat** (Java Application Server, v4.1.x)

**MySQL** (Server, client, and library packages, v5.0.x)

**MySQL ODBC Connector** (ODBC Connector for MySQL, v3.51.x)

**unixODBC** (ODBC driver for Unix/Linux, v2.2.9)

### TCP/IP

iPush Server proceeds the communication over IP network.

## 2. Required Components for Installation

Component	Version	Description
<b>iPush Service</b>	<b>v2.2.0</b>	<b>iPush Server messaging kernel</b>
<b>Auth. Center</b>	<b>v2.1.6</b>	<b>Authentication and authorization service for iPush Server (AC Server)</b>
<b>License Daemon</b>	<b>v2.1.2</b>	<b>License control service for iPush Server</b>
<b>BackOffice</b>	<b>v2.1.2</b>	<b>Java Servlet / JSP web-based management tools for iPush Server</b>
J2SDK	v1.4.2_16	Java 2 software development kit, standard edition
Tomcat	v4.1.36	Java application server for BackOffice
MySQL server	v5.0.45	MySQL database server for iPush® BackOffice
MySQL client	v5.0.45	MySQL client programs
MySQL develop	v5.0.45	MySQL libraries and header files
MySQL ODBC Connector	v3.51.22_0	ODBC Connector for MySQL
unixODBC	v2.2.9_1	ODBC driver for Unix/Linux



The first four components in bold are provided by ICE Technology, the others are provided by 3<sup>rd</sup>-party. Please make sure the required version if you have them.



These components in bold are subject to iPushV2\_5\_0\_P4F.bin (Build 250) installation file issued on Jan., 2008 and may be changed in the future. Please have your attention to the Readme.txt of each installation.

< Download information for required components >

Package	File name	URL for download
<b>iPush Server V2 – Push4Free Edition</b>	<b>iPushV2_5_0_P4F.bin</b>	<b><a href="http://www.push4free.com/developer/download">http://www.push4free.com/developer/download</a></b>
J2SDK	j2sdk-1_4_2_16-linux-i586-rpm.bin	<a href="http://java.sun.com/j2se/1.4.2/download.html">http://java.sun.com/j2se/1.4.2/download.html</a>
Tomcat	apache-tomcat-4.1.36.tar.gz	<a href="http://tomcat.apache.org/download-41.cgi">http://tomcat.apache.org/download-41.cgi</a>
MySQL server	MySQL-server-5.0.45-0.i386.rpm	<a href="http://dev.mysql.com/downloads/mysql/5.0.html">http://dev.mysql.com/downloads/mysql/5.0.html</a> (Section Linux x86 generic RPM)
MySQL client	MySQL-client-5.0.45-0.i386.rpm	<a href="http://dev.mysql.com/downloads/mysql/5.0.html">http://dev.mysql.com/downloads/mysql/5.0.html</a> (Section Linux x86 generic RPM)
MySQL develop	MySQL-devel-5.0.45-0.i386.rpm	<a href="http://dev.mysql.com/downloads/mysql/5.0.html">http://dev.mysql.com/downloads/mysql/5.0.html</a> (Section Linux x86 generic RPM)
MySQL ODBC Connector	mysql-connector-odbc-3.51.23-0.i386.rpm	<a href="http://dev.mysql.com/downloads/connector/odbc/3.51.html">http://dev.mysql.com/downloads/connector/odbc/3.51.html</a> (Section Linux x86 generic RPM)
unixODBC	unixODBC-2.2.9-1.i386.rpm	<a href="http://fr.rpmfind.net/linux/RPM/PLD/dists/ac/read-y/i386/unixODBC-2.2.9-1.i386.html">http://fr.rpmfind.net/linux/RPM/PLD/dists/ac/read-y/i386/unixODBC-2.2.9-1.i386.html</a>



Please get the packages with RPM format from 3<sup>rd</sup>-party.

### 3. Pre-installation Check List

Check 1. Make sure all the required components have been existed in your Linux system.

Or the iPush Server for Linux CD has been inserted into connected CD-ROM driver. The following installation is preceded under /mnt/cdrom in CD-ROM driver (/dev/hdc).

```
# mount /dev/hdc /mnt/cdrom ↵
```

Check 2. Check whether port 8000 can be used (iPush messaging kernel default)

Check 3. Check whether port 1111 can be used (Auth. Center default)

Check 4. Check whether port 2001 can be used (License Daemon default)

Check 5. Check whether port 8080 can be used (Tomcat default)

Check 6. Check whether port 3306 can be used (MySQL default)

▶ Check 2. ~ 6. as follows:

```
# telnet localhost 8000 ↵
```

```
# telnet localhost 1111 ↵
```

```
# telnet localhost 2001 ↵
```

```
# telnet localhost 8080 ↵
```

```
# telnet localhost 3306 ↵
```

If the result of each command is as follows:

```
Trying 127.0.0.1...
```

```
telnet: connect to address 127.0.0.1: Connection refused
```

It means that the listen port checked previously is not in use. You may proceed installation with default setting.

#### **4. Start Installation**

The installation of iPush Server for Linux is consisted of the following:

- ◆ 3<sup>rd</sup>-party Software Installation
- ◆ System Configuration
- ◆ iPush Server Installation
- ◆ iPush BackOffice Installation

They are explained in details as follows.

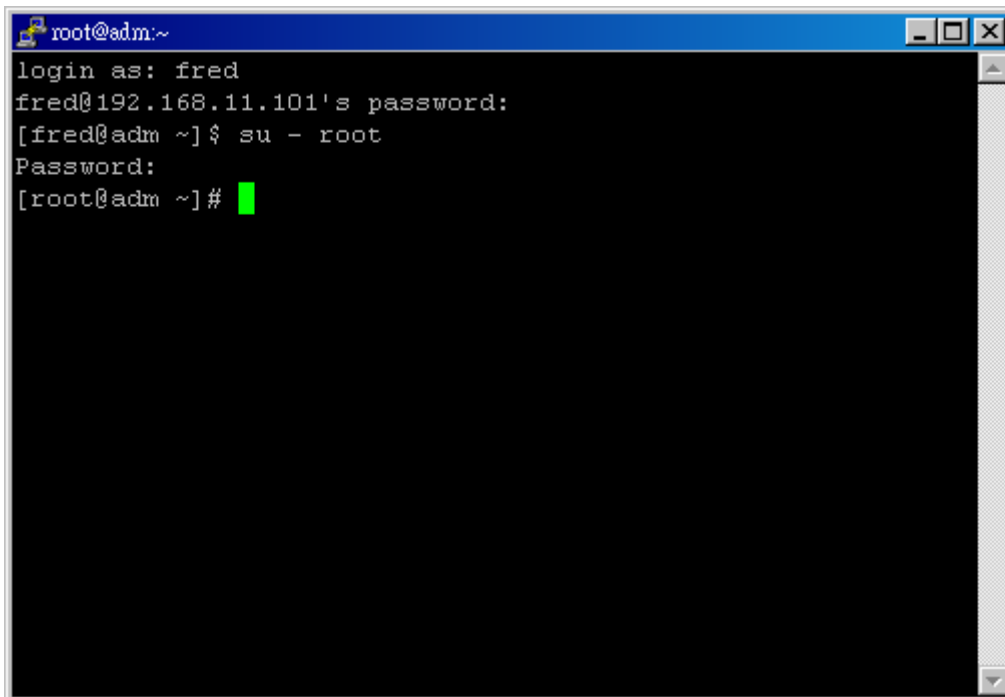
#### 4.1 3<sup>rd</sup>-party Software Installation

Step 1. Login Linux system as root, and make sure the following 3<sup>rd</sup>-party software had been located in system.

- \* MySQL-server-5.0.45-0.i386.rpm
- \* MySQL-client-5.0.45-0.i386.rpm
- \* MySQL-devel-5.0.45-0.i386.rpm
- \* mysql-connector-odbc-3.51.23-0.i386.rpm
- \* unixODBC-2.2.9-1.i386.rpm
- \* j2sdk-1\_4\_2\_16-linux-i586-rpm.bin
- \* jakarta-tomcat-4.1.36.tar.gz

Step 2. Use command **su** to change the login identification to **root** if necessary.

```
[fred] $ su - root ↵
```



```
root@adm:~  
login as: fred  
fred@192.168.11.101's password:  
[fred@adm ~]$ su - root  
Password:  
[root@adm ~]#
```



The figure showed above is demonstrating the User **fred** login Linux system with the SSH client **putty**.

### Step 3. Install MySQL

```
[root] # cd /home/fred ↵
```

(Change working directory to the one with 3<sup>rd</sup>-party software. Please adjustment as your environment.)

```
[root] # rpm -i MySQL-server-5.0.45-0.i386.rpm ↵
```

```
[root] # rpm -i MySQL-client-5.0.45-0.i386.rpm ↵
```

```
[root] # rpm -i MySQL-devel-5.0.45-0.i386.rpm ↵
```



The default password of user `root` is blank, but you can change the password as command:  
`/usr/bin/mysqladmin -u root password 'new-password'`



You may ignore the warning messages.

```
[root] # sh /etc/rc.d/init.d/mysql start ↵
```

Start MySQL Server.

### Step 4. Install J2SDK

```
[root] # sh j2sdk-1_4_2_16-linux-i586.bin ↵ (Extract the rpm package)
```

When show: Do you agree to the above license terms? [yes or no], answer **yes**

Then press [Enter] to continue.

```
[root] # rpm -i j2sdk-1_4_2_16-linux-i586.rpm ↵
```

### Step 5. Install Tomcat

```
[root] # cp apache-tomcat-4.1.36.tar.gz /usr/local ↵
```

(Copy Tomcat installation file to /usr/local)

```
[root] # cd /usr/local ↵
```

(Change working directory to /usr/local)

```
[root]# tar xvfz apache-tomcat-4.1.36.tar.gz ↵
```

(Extract Tomcat installation file)

```
[root]# ln -s apache-tomcat-4.1.36 jakarta-tomcat ↵
```

(Add symbolic link jakarta-tomcat)

## 4.2 System Configuration

Proceed with user **root** identification.

Step 6. Add two users: **tomcat** and **ipush**.

```
[root] # groupadd tomcat ↵
```

(Add group tomcat)

```
[root] # useradd -g tomcat tomcat ↵
```

(Add user tomcat, default as member of group tomcat)

```
[root] # groupadd ipush ↵
```

(Add group ipush)

```
[root] # useradd -g ipush -G tomcat ipush ↵
```

(Add user ipush, default as member of group ipush, and have the permission of group tomcat)



Please change the group permission with the following command if user ipush existed:

```
[root] # usermod -G tomcat ipush ↵
```

```
[root] # passwd ipush ↵
```

(Set the password of user ipush)

Step 7. Edit the file **/etc/hosts**, make sure these two lines included.

```
# Make sure the first canonical name of 127.0.0.1 is localhost
# The fixed IP address of sample host here is 192.168.11.101, host name is adm, domain name is
  adm.icetechnology.com
```

```
127.0.0.1 localhost
192.168.11.101 adm adm.icetechnology.com
```

You may edit the second line as your environment meets. Save the file after confirmation.

Step 8. Edit the file **/etc/profile**, make sure these two lines included for environment variable JAVA\_HOME.

```
JAVA_HOME="/usr/java/j2sdk1.4.2_16"
export JAVA_HOME
```

### **4.3 iPush Server Installation**

Make sure you have got the iPush Server for Linux installation file (like **iPushV2\_5\_0\_P4F.bin**) to directory **/home/ipush** (you may FTP upload the files with user ipush first).

Step 9. Change the user identification to ipush.

```
[root] # su - ipush ↵
```

Step 10. Add J2SDK binary path to environment variable PATH.

```
[ipush] $ PATH=$PATH:/usr/java/j2sdk1.4.2_16/bin ↵
```

Step 11. Install iPush Server.

```
[ipush] $ sh iPushV2_5_0_P4F.bin ↵
```

Response to every prompt:

### **11.1. Introduction**

Key in **back** to go back to previous step, key in **quit** to abort the procedures along the installation.

Press [Enter] to continue.

### **11.2. Choose Install Folder**

Ask you the directory you want the iPush Server V2 - Push4Free Edition to install with. Default as /home/ipush/iPushV2P4F.

You may press [Enter] to accept default or key in another **absolute path**.

### **11.3. iPush Server Hostname Configuration**

Ask you the host name of iPush Server. Default as your Linux host name.

You may press [Enter] to accept default or key in another name.



If the hostname you set here is different from the one in `/etc/hosts` (see Step 7.), iPush Server will run abnormally. You have to edit the configuration files: `iPush.ini` (value of `AuthAddress`) and `Auth.ini`(value of `LicenseDaemonAddress`), then restart iPush Server to correct the error.

### **11.4. Pre-installation Summary**

Show you the installation information.

Press [Enter] to continue.

### **11.5. Installing...**

Copy files. The dotted lines indicate the progress.

The installation was completed when you see the shell prompt.

Step 12. Create icedb in MySQL.

```
[ipush] $ mysql -u root < ~/iPushV2P4F/config/mysql_icedb.sql ↵
```

(Assume root is using the blank as password here)

To verify the icedb had been created successfully, you may use the command to check it out:

```
[ipush] $ mysqldump -u ipush -phiipush icedb ↵
```

```
[ipush] $ su - ↵
```

(Change user identification to root)

```
[root] # cp ~/ipush/iPushV2P4F/config/my.cnf /etc ↵
```

(Copy MySQL configuration file to /etc, so you can start/stop/restart MySQL Server with command `service mysql [start]/[stop]/[restart]` later in root identification)

Step 13. Install ODBC libraries and MySQL ODBC connector.

```
[root] # cd /home/fred ↵
```

(Change the working directory to the user home in Step 3.)

```
[root] # rpm -ivh unixODBC-2.2.9-1.i386.rpm ↵
```



If you got error message like: "Failed dependencies: libltdl.so.X is needed by unixODBC-2.2.9-1.i386", you may visit <http://fr.rpmfind.net/linux/RPM/PLD/dists/ac/ready/i386/unixODBC-2.2.9-1.i386.html> to download the required rpm package to install first.

```
[root] # rpm -ivh mysql-connector-odbc-3.51.23-0.i386.rpm ↵
```

```
[root] # cp ~/ipush/iPushV2P4F/config/odbc.ini /etc ↵
```

(Press 'y' to confirm the file replacement)

```
[root] # chmod +r /etc/odbc.ini ↵
```

```
[root] # cp ~/ipush/iPushV2P4F/config/odbcinst.ini /etc ↵
```

(Press 'y' to confirm the file replacement)

```
[root] # chmod +r /etc/odbcinst.ini ↵
```

Step 14. Install and start the services of iPush Server.

```
[root] # cp ~ipush/iPushV2P4F/config/ipushv2.sh /etc/rc.d/init.d/ipushv2 ↵
```

(Copy ipushv2.sh to /etc/rc.d/init.d/, it will automatically initial the iPush-related services at system bootstrap)

```
[root] # chkconfig --add ipushv2 ↵
```

```
[root] # service ipushv2 start ↵
```

(Start iPush-related services)

If everything goes well, you will see the information below. They indicate the services (License Daemon, Auth. Center, and iPush messaging kernel) had been initialed successfully:

```
Starting ipushld: OK. (pid=xxxxx)
```

```
Starting ipushac: OK. (pid=xxxxx)
```

```
Starting ipushd: OK. (pid=xxxxx)
```

You may check the status of services of iPush Server with the following command any time:

```
[root] # service ipushv2 status ↵
```

The running status should like:

```
ipushld is running. (pid=xxxxx)
```

```
ipushac is running. (pid=xxxxx)
```

```
ipushd is running. (pid=xxxxx)
```

#### **4.4 iPush BackOffice Installation**

Make sure the use identification is root.

Step 15. Configure iPush BackOffice in Tomcat. Please skip this step if you don't want to overwrite the existed configuration of Tomcat. But you may refer to [6. Tomcat Manual Configuration](#) to proceed the iPush BackOffice configuration by editing file **server.xml**.

```
[root] # cd /usr/local/jakarta-tomcat/conf ↵
```

(Change working directory to /usr/local/jakarta-tomcat/conf)

```
[root] # mv server.xml server.xml.bak ↵
```

(Rename to backup the existed server.xml)

```
[root] # cp ~ipush/iPushV2P4F/config/tomcat_server.xml server.xml ↵
```

(Copy the file server.xml comes with iPush Server package)

```
[root] # chmod 644 server.xml ↵
```

(Copy the file permission of server.xml to prohibit writing)

Step 16. Install and start the Tomcat service.

```
[root] # cp ~ipush/iPushV2P4F/config/tomcat.sh /etc/rc.d/init.d/tomcat ↵
```

(Copy file tomcat.sh to /etc/rc.d/init.d/, it will automatically initial the Tomcat service at system bootstrap)

```
[root] # chkconfig --add tomcat ↵
```

```
[root] # service tomcat start ↵
```

(Start Tomcat service)


Congratulations! You have completed the installation of iPush Server V2 – Push4Free Edition for Linux.

## 5. Post Installation Check List

### Check 1. [iPush BackOffice - Login]

Open browser, connecting <http://<host IP>:8080/backoffice> (8080 is default port of Tomcat web server. If there is any difference, please revise it.) The following snapshot shows if everything is functioning well:

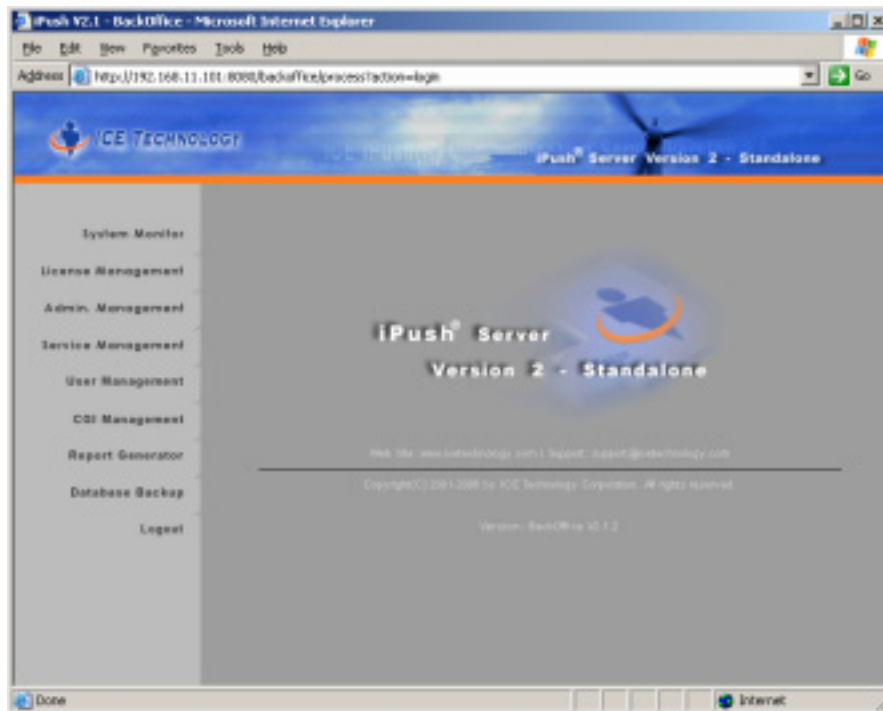


If everything is OK, please key in **ipushadm** in ID field and **admipush** in Password field, then click  to login.



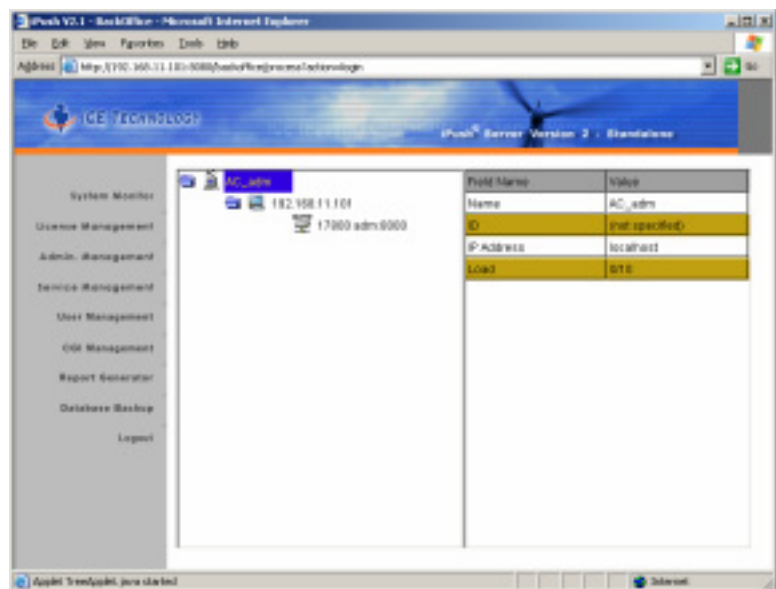
ID: **ipushadm** / Password: **admipush** is preset system administrator account for iPush Server, with supreme Admin group authorization. We strongly recommend you to change password in **Admin. Management** soon after login to iPush BackOffice.

The below snapshot indicates a successful login:



## Check 2. [iPush BackOffice – System Monitor]

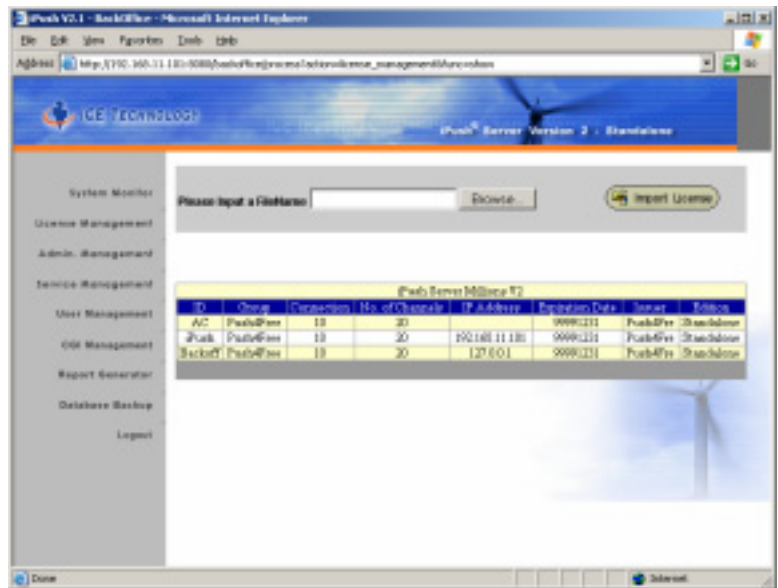
Click **System Monitor** from menu on the left of BackOffice page. As shown on the right snapshot, click the folder icon of **AC\_xxx** (namely Auth. Center) to view service running status of iPush messaging kernel (the host of second level 192.168.11.101, viz. iPush messaging kernel)



### Check 3. [iPush BackOffice - License Management]

Click **License Management** from menu on the left of **BackOffice** page. As the right snapshot shows, there should be three entries at least, ID respectively belonging to **AC**, **iPush**, and **Backoff**.

This special iPush Server Millions V2 edition gets 10 concurrent connections license and never expired.



## 6. Tomcat Manual Configuration

You need to manually set up Tomcat configuration if you don't select the automatic way in Step 15. Please comply with the following procedures:

Step 1. Open file `<Tomcat installed directory>/conf/server.xml` with vi or other editor.



The default path of Tomcat installation is `/usr/local/jakarta-tomcat/conf`.

Step 2. Find the following code segment:

```
<!--  
<Context path="" docBase="ROOT" debug="0"/>  
-->
```

Step 3. Add the following lines to behind the above segment:

```
<!-- ICE BackOfficeV2 Context -->  
<Context path="/backoffice" docBase="<IPUSH_PATH>\BackOffice" debug="9"  
reloadable="true">  
  <Logger className="org.apache.catalina.logger.FileLogger"  
    prefix="localhost_BackOfficeV2_log." suffix=".txt" timestamp="true"/>  
</Context>  
  
<!-- ICE bkosys Context -->  
<Context path="/backoffice" docBase="<IPUSH_PATH>\bkosys" debug="9" reloadable="true">  
  <Logger className="org.apache.catalina.logger.FileLogger"  
    prefix="localhost_bkosys_log." suffix=".txt" timestamp="true"/>  
</Context>
```

Where `<IPUSH_PATH>` is the iPush Server installed directory.

Step 4. Save file server.xml.

Step 5. Stop Tomcat service.

```
[root] # service tomcat stop ↵
```

Step 6. Restart Tomcat to complete manual configuration.

```
[root] # service tomcat start ↵
```

## 7. Start and Stop iPush Server

After the installation of iPush Server for Linux completed, the iPush-related services (License Daemon, Auth. Center and iPush messaging kernel) will be started automatically.

Of course, as user root, you can start or stop the iPush-related services manually:

```
[root] # service ipushv2 start ↵  
      (Start iPush-related services)
```

You will see the information below:

```
Starting ipushld: OK. (pid=xxxxx)  
Starting ipushac: OK. (pid=xxxxx)  
Starting ipushd: OK. (pid=xxxxx)
```

```
[root] # service ipushv2 stop ↵  
      (Stop iPush-related services)
```

You will see the information below:

```
Shutting down ipushd: OK.  
Shutting down ipushac: OK.  
Shutting down ipushld: OK.
```

## 8. Uninstall

If you want to uninstall iPush Server, please keep the following steps.

Step 1. Login Linux system with user **root**.

Step 2. Stop iPush-related services:

```
[root] # service ipushv2 stop ↵
```

Step 3. Change user identification to ipush:

```
[root] # su - ipush ↵
```

Step 4. Execute the uninstaller Uninstall\_iPushV2:

```
[ipush] $ sh /home/ipush/iPushV2P4F/UninstallerData/Uninstall_iPushV2 ↵
```

Step 5. Follow information about uninstallation, you will see:

```
About to uninstall...
```

```
Press [Enter] to continue.
```

The uninstaller will leave three directories: BackOffice, iPush, and LogFiles for you to remove manually if necessary.