

# MacPatch – Install & Setup Guide



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## MacPatch System Requirements

### *Server Requirements:*

- Mac OS X or Mac OS X Server 10.7 or higher
- Using Intel Hardware, PPC is not supported
- 4 GB of RAM, 8 GB is recommended
- Java v1.6 or higher
- MySQL version 5.1 or higher, MySQL 5.5 is recommended.
- Xcode 4.3 or higher

### *Server Ports Used:*

- Default
  - 80, 443, 2600, 2601, 2602
- Configurable
  - 2600, 2601, 2602

## MacPatch System Tuning

In order to get the most out of Mac OS X Client/Server operating system some of it's default limits need to be increased. Please run the following commands via Terminal application. Note, a reboot is recommended after applying these changes.

```
# echo 'kern.maxfiles=20480' | sudo tee -a /etc/sysctl.conf  
# echo -e 'limit maxfiles 8192 20480\nlimit maxproc 1000 2500' | sudo tee -a /etc/launchd.conf  
# echo 'ulimit -n 4096' | sudo tee -a /etc/profile
```

Suggested Links:

- <http://support.apple.com/kb/HT4022>
- <http://support.apple.com/kb/HT3854>

## MacPatch Database

The MacPatch environment requires a MySQL database to function. It is recommended that you install the database software prior to installing the MacPatch server software. It is recommended that MySQL version 5.5.x or 5.6.x Enterprise edition be used but the community edition will also work. It is also recommended that the MySQL server be dedicated to the MacPatch server(s).

On most Mac OS X 10.7 and higher operating systems the default kernel parameters need to be increased. Please run the following commands via Terminal application. Note, a reboot is recommended after applying these changes.

Please note, these changes are for systems with 4Gig's of RAM. Create the Database

Login as **root**

- `mysql -u root -p`

### Run the following MySQL commands

```
mysql> CREATE USER 'mpdbadm'@'%' IDENTIFIED BY '{Password}';
mysql> CREATE DATABASE MacPatchDB;
mysql> GRANT ALL ON MacPatchDB.* TO 'mpdbadm'@'%' IDENTIFIED BY '{Password}';
mysql> GRANT ALL PRIVILEGES ON MacPatchDB.* TO 'mpdbadm'@'localhost' IDENTIFIED BY '{Password}';
mysql> SET GLOBAL log_bin_trust_function_creators = 1;
mysql> FLUSH PRIVILEGES;
```

### Delete MySQL anonymous accounts

```
mysql> DROP USER ''@'localhost';
mysql> DROP USER ''@'host_name';
mysql> quit
```

### Load Database Schema

```
% mysql MacPatchDB -u mpdbadm -p < /Library/MacPatch/Server/conf/Database/MacPatchDB_tables.sql
% mysql MacPatchDB -u mpdbadm -p < /Library/MacPatch/Server/conf/Database/MacPatchDB_views.sql
```

## Building the MacPatch Server

Building the base server software is very simple process. First you create a few directories, clone the MacPatch master branch and compile the binaries.

Please note, Xcode needs to be installed and the command line tools need to be installed as well. Xcode is a free download via the "App Store.app".

### Create MacPatch Server Directories

```
# mkdir -p /Library/MacPatch
# mkdir -p /Library/MacPatch/Content
# mkdir -p /Library/MacPatch/Content/Web
# mkdir -p /Library/MacPatch/Content/Web/clients
# mkdir -p /Library/MacPatch/Content/Web/patches
# mkdir -p /Library/MacPatch/Content/Web/sav
# mkdir -p /Library/MacPatch/Content/Web/sw
# mkdir -p /Library/MacPatch/Server
# mkdir -p /Library/MacPatch/Server/lib
# mkdir -p /Library/MacPatch/Server/Logs
```

### Create tmp directory for builds

```
# mkdir -p /Library/MacPatch/tmp/build
# cd /Library/MacPatch/tmp
```

### Clone the MacPatch repository

```
# git clone git://github.com/SMSG-MAC-DEV/MacPatch.git
```

### Compile Server Binaries

```
# xcodebuild -project /Library/MacPatch/tmp/MacPatch/MacPatch\ Server/MacPatch\
Server.xcodeproj -target SERVER_BUILD SYMROOT="/Library/MacPatch/tmp/build/Server"
```

### Clean Up

```
# find /Library/MacPatch/tmp/build/Server -name "*.build" -print | xargs -l{} rm -rf {}
# find /Library/MacPatch/tmp/build/Server -name "*.dSYM" -print | xargs -l{} rm -rf {}
```

## Copy Files

```
# cp -R /Library/MacPatch/tmp/MacPatch/MacPatch\ Server/Server /Library/MacPatch
# cp -R /Library/MacPatch/tmp/build/Server/Release/ /Library/MacPatch/Server/bin
```

## Link & Set Permissions

```
# ln -s /Library/MacPatch/Server/conf/Content/Doc /Library/MacPatch/Content/Doc
# chown -R root:admin /Library/MacPatch/Server
# chmod 0775 /Library/MacPatch/Server
# chown -R 79:70 /Library/MacPatch/Server/jetty-mpsitem
# chown -R 79:70 /Library/MacPatch/Server/jetty-mpwsl
```

## Download and Configure Apache 2

1. Run the script /Library/MacPatch/Server/conf/scripts/MPHttpServerBuild.sh
2. Once complete you will see an "Apache2" directory in "/Library/MacPatch/Server"

## Archive and Reuse

The MacPatch Server directory "/Library/MacPatch/Server" can now be archived/zipped up and be deployed to additional MacPatch servers.

## Apple Software Update Server

The MacPatch environment requires the use of a Apple Software Update Server. This can be done with the Apple Server.app. The Server application is available via the App Store. It is recommended that the Apple Software Update Server be run on a separate system but it is not required.

## Server Configuration

The master MacPatch server requires that several components be setup and configured for the environment to work properly.

Run the following shell scripts in order to configure

### 1) DataBaseLDAPSetup.sh (Master)

- a. The database setup is required for MacPatch to function
- b. The LDAP/AD External Web Admin Authentication is optional, see note below about certificates.

#### *Add Remote Certificates*

If you have configured MacPatch to do user authentication via Active Directory/LDAP, which uses SSL to communicate, you might need to add the remote certificate to a list of trusted certificates. If a major certificate authority issued your certificate for your LDAP environment you can most likely skip this step.

Open a new Terminal window and run the following command

```
# /Library/MacPatch/Server/conf/scripts/addRemoteCert.sh -c "server.name.com 3269/636"
```

Now close the window and continue with starting the MacPatch server services.

### 2) PatchLoaderSetup.sh

- a. MacPatch requires gathering all of Apple Software updates from an Apple Software Update server. So that Apple patches can be assigned to a patch group for patching.

### 3) SymantecAntivirusSetup.sh (Optional)

- a. MacPatch supports patching Symantec Antivirus definitions. Not all sites use SAV/SEP so this step is optional.

### 4) WebAdminSetup.sh (Master)

- a. The MacPatch admin web console is required to use MacPatch. This section is an option for those who wish to setup additional servers for large environments.



**5) WebServicesSetup.sh (Master)**

- a. The MacPatch web services are required to use MacPatch.

**6) StartServices.sh**

- a. Depending on your choices this script will start all MacPatch services.

**7) Permissions.sh (Required)**

- a. Need to run the Permissions.sh script to set/fix permissions.

## Building the MacPatch Client Software

The MacPatch Agent package is very simple to build. A simple build script which you can extend and add more error checking to has been provided; located in the "scripts" directory of the GITHUB cloned master branch.

Edit *mpInfo.ini*

NOTE: the "mpInfo.ini" file is used to process the packages when uploading the agent via the web admin console. Clients will be updated based on "**version,agent\_version,build**" properties.

```
-----  
[agent]  
version=2.1.1  
agent_version=2.1.1  
build=1  
framework=1.0.0  
osver=*  
pkg=Base.pkg
```

```
[updater]  
version=2.1.1  
agent_version=2.1.1  
build=1  
framework=1.0.0  
osver=*  
pkg=Updater.pkg  
-----
```

To build the client simply edit the "MPBuildClient.sh" script and set the "GITROOT" and "BUILDDIR" variables accordingly. Then run the script via the Terminal.app. Inside of the \$BUILDDIR/Client/Combined directory you'll find the MacPatch agent installer "MPClientInstaller.pkg". While the installer is fully compiled it's not ready to be installed.

To prepare the agent for installation you'll need to login to the MacPatch Web Admin console and upload the newly compiled agent.

```
cp "${BASEDIR}/PKG/Combined/mpInfo.ini" >  
"${BUILDDIR}/Combined/MPClientInstaller.mpkg/Contents/Resources/.mpInfo.ini"
```

**Create ZIP file for uploading agent**

```
ditto -c -k --keepParent "${BUILDDIR}/Combined/MPCClientInstaller.mpkg"  
"${BUILDDIR}/Combined/MPCClientInstaller.mpkg.zip"
```

## MacPatch Web Admin Setup

While all of the MacPatch server software is now installed a few configuration steps need to be completed before you may begin to roll out the agent to your clients.

The default user name is "**mpadmin**" and the password is "**mpadmin**"

1. Master Server Configuration
2. Proxy Server Configuration
3. Default Agent Configuration
4. Upload Client Agent
5. SoftwareUpdate Servers
6. Patch Groups
7. Software Distribution Groups

### 1. *Configure MacPatch Server Info*

- a. Go to Menu "Admin > Server > MacPatch Servers"
- b. Click the "+" icon and add a new record.  
Note: If it's the first server it will automatically set it as master.

### 2. *Create New Agent Configuration*

- a. Go to Menu "Admin > Client Agents > Configure"
- b. Click the "Create New Agent Config" button
- c. Name the first configuration "Default"
- d. Set the following 3 properties to be enforced
  - i. MPServerAddress
  - ii. MPServerPort
  - iii. MPServerSSL
- e. Click the save button.
- f. Click the icon in the "Default" column for the default configuration. (**Important Step**)

### 3. *Upload Client Agent*

- a. Go to Menu "Admin > Client Agents > Upload and Deploy"
- b. In the "New Agent Upload" section click "Choose File"
  - i. **Base Agent PATH**
- c. Click the in the "Active" column for the "MPUpdateClient.pkg" row and change it to "Yes" and hit the enter key.

- d. Click the in the "Active" column for the "MPBaseClient.pkg" row and change it to "Yes" and hit the enter key.

#### **4. Create New Patch Group**

- a. Go to Menu "Patches > Patch Group(s)> Build"
- b. Name the group "RecommendedPatches"
- c. Set group type to "Production"
- d. Click the "Create Group" button.

## Backup

Backup in MacPatch is very simple process. There are only two parts that need to be backed up. The two components are the files on the “Master” server and the database.

### Backing Up The File System

For quick recovery Apple’s Time Machine software is a great solution. If your using a third party backup solution the main directory “/Library/MacPatch” is the only directory which **needs** to be backed up. The same directory needs to be backed up on additional distribution and proxy server.

### Backing Up The Database

The MacPatch database backup procedure is a very simple one. Only the tables and their data need to be backed up.

#### Requirements

- MySQL Workbench software, installed in “/Applications” (<http://www.mysql.com/downloads/workbench/>)

#### MySQL Workbench Setup

- Open Terminal, run the following commands  
ln -s /Applications/MySQLWorkbench.app/Contents/MacOS/mysql /usr/bin/mysql  
ln -s /Applications/MySQLWorkbench.app/Contents/MacOS/mysqldump /usr/bin/mysqldump

#### Backup Command

Script is located at:  
/Library/MacPatch/Server/conf/scripts

Command:  
php MPDBBackup.php <dbserver> <port> <Database> <user> <password> <dumpFileDirectory>

Example:  
php MPDBBackup.php MyDBServer.com 3306 MacPatchDB mpdbadm MyPass /private/tmp