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IceWarp Unified Communications

# Installation and Control in Linux

Version 10.4





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## CHAPTER 1

# IceWarp Server Installation and Control in Linux

This document describes how to install IceWarp Server and control its services in Linux.

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# Differences between Windows and Linux Versions

Linux version and Windows one are the same feature-to-feature, including:

- LDAP and ActiveDirectory integration
- Avast or Kaspersky Anti-Virus with AutoUpdates
- Commtouch Anti-Spam LIVE engine (ctasd)
- Mail Log Analyzer (see F1 help on how to setup cron job for importerd)
- SQLite3 database engine installed and used by default
- PHP5 with XCache, php\_tidy and common libraries
- native support for MySQL 5.0 (recommended for PDO) and 5.1 (both require libmysqlclient)
- command line tool with direct access to API and server constants
- the same unified IceWarpServer API library (RPC, PHP, apiobjectcall)
- the documentation applies with some abstraction if using WebAdmin

There are however differences given by the platform architecture:

- Administration GUI is non-native but runs under Wine
- installation script instead of installer wizard
- UnixODBC and DB driver installation required for Oracle 11, Firebird 2.1
- FastCGI only, no support for multi-threaded web server mode

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# Migration from Windows to Linux

1. Save Windows configuration into MCB file (Backup configuration).
2. In Linux, restore configuration in WebAdmin.
3. The correct paths are converted and set automatically by IceWarp Server, so you do not have to set them.
4. Mount Windows drive and manually copy the email folders into Linux destination directory (by default /opt/icewarp/mail).

---

## Before Installation

1. Check available space on your disc, min. 500 MB is required.
2. Make sure the system has **utf8** locale set. You can do this by running the following command:

***echo \$LANG***

It has to end with the **.utf8** string. If not, please refer to the system documentation and change the locale appropriately.

3. Please check if your system has installed required packages.

The **IceWarp Server – Dynamic Library Dependencies** (on page 39) chapter lists these packages, you can install only packages that are required by selected features.

4. Stop and remove from the **init** process every program which can use any network port required for the server. For example **sendmail** listens on the port 25 and the SMTP service would not be able to start.
5. You can create a new user for the server, for example "icewarp". This user has lower privileges than root. When created and set for installation, the server – after initialization – drops root privileges and runs under this user.

***NOTE: Even in this case, it is necessary to launch the server as root. It is not possible to launch the server from any account with lower privileges.***



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# Installation Package

The installation package is in .tar.gz format. The latest package can be always found on IceWarp **website** <http://www.icewarp.com>, in the Downloads section.

Example: IceWarpServer-10.4.0\_RHEL5.tar.gz

1. Extract the package:

```
[linux]$ tar -xzf IceWarpServer-10.4.0_RHEL5.tar.gz
```

2. Chdir to the created directory:

```
[linux]$ cd IceWarpServer-10.4.0_RHEL5
```

3. Start the installation:

```
[linux]$ ./install.sh
```

4. Follow the onscreen instructions.

---

# Running

The IceWarp Server uses database for storing informations for accounts, antispam and groupware.

Default databases are:

- Accounts: uses file system
- Antispam and groupware: SQLite

You can change database type in wizard (launch **wizard.sh**) or using the Remote Administration tool for Windows or using **WebAdmin**.

Also UnixODBC is supported, but you must compile the latest version from <http://www.unixodbc.com/>.

The server was tested with UnixODBC and Oracle.

Default listening port for webserver is 32000, but # 80 is also used.

Default http addresses are:

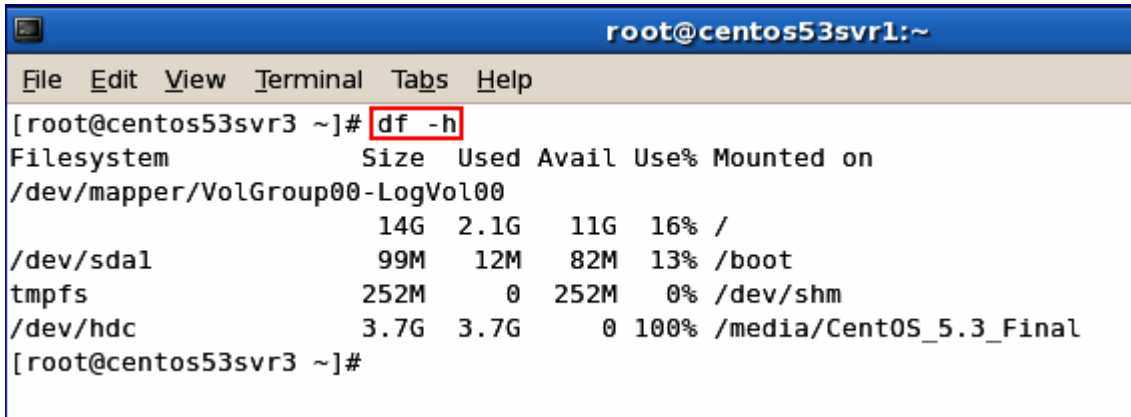
- WebClient: <http://localhost:32000/webmail>
- WebAdmin: <http://localhost:32000/admin>
- RPC: <http://localhost:32000/RPC/>

If you have problem running the server, please check log files in the **./logs** directory, errors regarding unsuccessful port binding or loading of required libraries will be logged here.

# Installation Step-by-Step on Red Hat Enterprise Linux 5

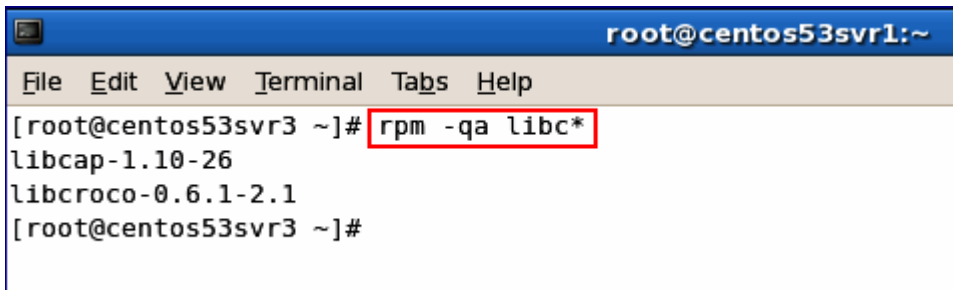
To install IceWarp Server on Red Hat Enterprise Linux (RHEL) 5, follow these steps:

1. Check available disk space in volumes using **df -h**.



```
root@centos53svr1:~  
File Edit View Terminal Tabs Help  
[root@centos53svr3 ~]# df -h  
Filesystem      Size  Used Avail Use% Mounted on  
/dev/mapper/VolGroup00-LogVol00  
                14G  2.1G   11G  16% /  
/dev/sda1       99M   12M   82M  13% /boot  
tmpfs           252M    0   252M  0% /dev/shm  
/dev/hdc        3.7G  3.7G    0 100% /media/CentOS_5.3_Final  
[root@centos53svr3 ~]#
```

2. Verify that the following packages are installed using **rpm -qa**.



```
root@centos53svr1:~  
File Edit View Terminal Tabs Help  
[root@centos53svr3 ~]# rpm -qa libcap*  
libcap-1.10-26  
libcroco-0.6.1-2.1  
[root@centos53svr3 ~]#
```

3. Check for services startup's using `chkconfig --list | grep on`.

```

root@centos53svr1:~
File Edit View Terminal Tabs Help
[root@centos53svr2 ~]# chkconfig --list | grep on
acpid          0:off  1:off  2:on   3:on   4:on   5:on   6:off
anacron        0:off  1:off  2:on   3:on   4:on   5:on   6:off
apmd           0:off  1:off  2:on   3:on   4:on   5:on   6:off
atd            0:off  1:off  2:off  3:on   4:on   5:on   6:off
auditd         0:off  1:off  2:on   3:on   4:on   5:on   6:off
autofs         0:off  1:off  2:off  3:on   4:on   5:on   6:off
.
.
.
network       0:off  1:off  2:on   3:on   4:on   5:on   6:off
nfslock       0:off  1:off  2:off  3:on   4:on   5:on   6:off
pcscd         0:off  1:off  2:on   3:on   4:on   5:on   6:off
portmap       0:off  1:off  2:off  3:on   4:on   5:on   6:off
readahead_early 0:off  1:off  2:on   3:on   4:on   5:on   6:off
readahead_later 0:off  1:off  2:off  3:off  4:off  5:on   6:off
restorecond   0:off  1:off  2:on   3:on   4:on   5:on   6:off
rpcgssd       0:off  1:off  2:off  3:on   4:on   5:on   6:off
rpcidmapd     0:off  1:off  2:off  3:on   4:on   5:on   6:off
sendmail      0:off  1:off  2:on   3:on   4:on   5:on   6:off
setroubleshoot 0:off  1:off  2:off  3:on   4:on   5:on   6:off
smartd        0:off  1:off  2:on   3:on   4:on   5:on   6:off
sshd          0:off  1:off  2:on   3:on   4:on   5:on   6:off
syslog        0:off  1:off  2:on   3:on   4:on   5:on   6:off
wdaemon       0:off  1:off  2:off  3:off  4:off  5:off  6:off
xfs           0:off  1:off  2:on   3:on   4:on   5:on   6:off
xinetd        0:off  1:off  2:off  3:on   4:on   5:on   6:off
yum-updatesd  0:off  1:off  2:on   3:on   4:on   5:on   6:off
[root@centos53svr3 ~]#

```

4. Turn off **Auto-Start** for clashing services, ie. Sendmail using `chkconfig --level 0123456 sendmail off`.

```

root@centos53svr1:~
File Edit View Terminal Tabs Help
[root@centos53svr3 ~]# chkconfig --list sendmail
sendmail      0:off  1:off  2:on   3:on   4:on   5:on   6:off
[root@centos53svr3 ~]# chkconfig --level 0123456 sendmail off
[root@centos53svr3 ~]# chkconfig --list sendmail
sendmail      0:off  1:off  2:off  3:off  4:off  5:off  6:off
[root@centos53svr3 ~]#

```

NOTE: Some distributions use Debian 6 or Centos 6.2 – in these cases, you have to use different commands:

For Debian 6:

```
update-rc.d -f exim4 remove
```

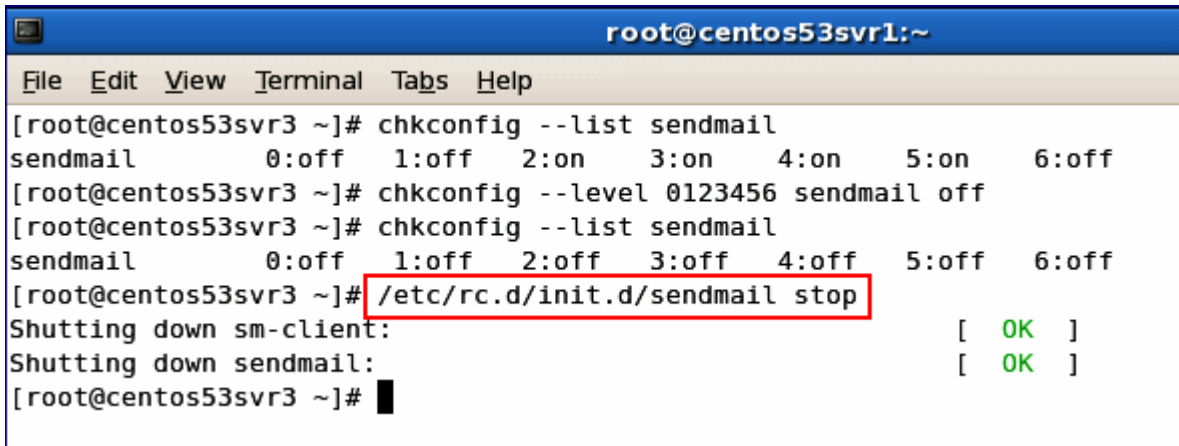
```
/etc/init.d/exim4 stop
```

For Centos 6.2:

```
ckconfig --level 0123456 postfix off
```

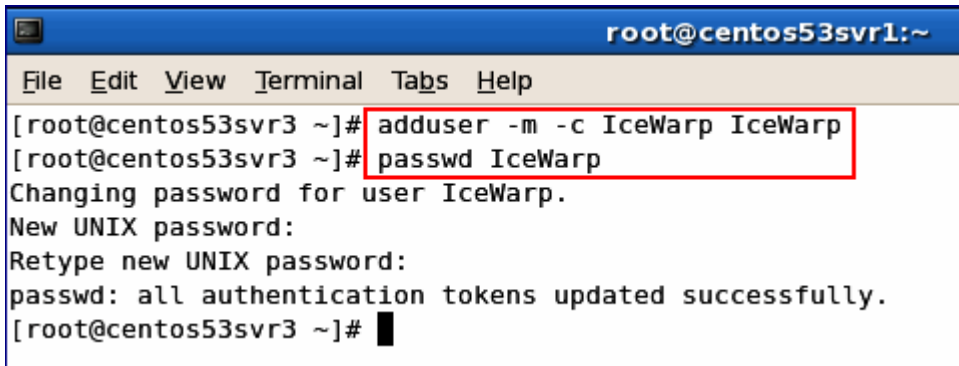
```
/etc/rc.d/init.d/postfix stop
```

5. Stop clashing services, ie. Sendmail using `/etc/rc.d/init.d/sendmail stop`.



```
root@centos53svr1:~  
File Edit View Terminal Tabs Help  
[root@centos53svr3 ~]# chkconfig --list sendmail  
sendmail      0:off  1:off  2:on   3:on   4:on   5:on   6:off  
[root@centos53svr3 ~]# chkconfig --level 0123456 sendmail off  
[root@centos53svr3 ~]# chkconfig --list sendmail  
sendmail      0:off  1:off  2:off  3:off  4:off  5:off  6:off  
[root@centos53svr3 ~]# /etc/rc.d/init.d/sendmail stop  
Shutting down sm-client:      [ OK ]  
Shutting down sendmail:      [ OK ]  
[root@centos53svr3 ~]# █
```

6. Optionally, create a user for IceWarp Server installation (both username and password are case sensitive).



```
root@centos53svr1:~  
File Edit View Terminal Tabs Help  
[root@centos53svr3 ~]# adduser -m -c IceWarp IceWarp  
[root@centos53svr3 ~]# passwd IceWarp  
Changing password for user IceWarp.  
New UNIX password:  
Retype new UNIX password:  
passwd: all authentication tokens updated successfully.  
[root@centos53svr3 ~]# █
```

7. If not already installed, install MySQL.

```

root@centos53svr1:~
File Edit View Terminal Tabs Help
[root@centos53svr3 ~]# adduser -m -c IceWarp IceWarp
[root@centos53svr3 ~]# passwd IceWarp
Changing password for user IceWarp.
New UNIX password:
Retype new UNIX password:
passwd: all authentication tokens updated successfully.
[root@centos53svr3 ~]# yum list mysql-server
Loaded plugins: fastestmirror
Loading mirror speeds from cached hostfile
* base: centosq2-msync-dvd.centos.org
* updates: centosq2-msync-dvd.centos.org
* addons: centosk.centos.org
* extras: centoso3.centos.org
Available Packages
mysql-server.i386                               5.0.45-7.el5
[root@centos53svr3 ~]# yum install mysql-server

```

```

root@centos53svr1:~
File Edit View Terminal Tabs Help
Resolving Dependencies
--> Running transaction check
---> Package mysql-server.i386 0:5.0.45-7.el5 set to be updated
--> Processing Dependency: perl-DBD-MySQL for package: mysql-server
--> Running transaction check
---> Package perl-DBD-MySQL.i386 0:3.0007-2.el5 set to be updated
--> Finished Dependency Resolution

Dependencies Resolved

=====
Package                Arch           Version         Repository      Size
=====
Installing:
mysql-server            i386           5.0.45-7.el5   base            9.7 M
Installing for dependencies:
perl-DBD-MySQL         i386           3.0007-2.el5   base            148 k
=====

Transaction Summary
-----
Install      2 Package(s)
Update      0 Package(s)
Remove      0 Package(s)

Total download size: 9.8 M
Is this ok [y/N]: y
Downloading Packages:
(1/2): perl-DBD-MySQL-3.0007-2.el5.i386.rpm           | 148 kB    00:02
(2/2): mysql-server-5.0.45-7.el (9%) 8% [=          ] 112 kB/s | 800 kB    01:20 ETA

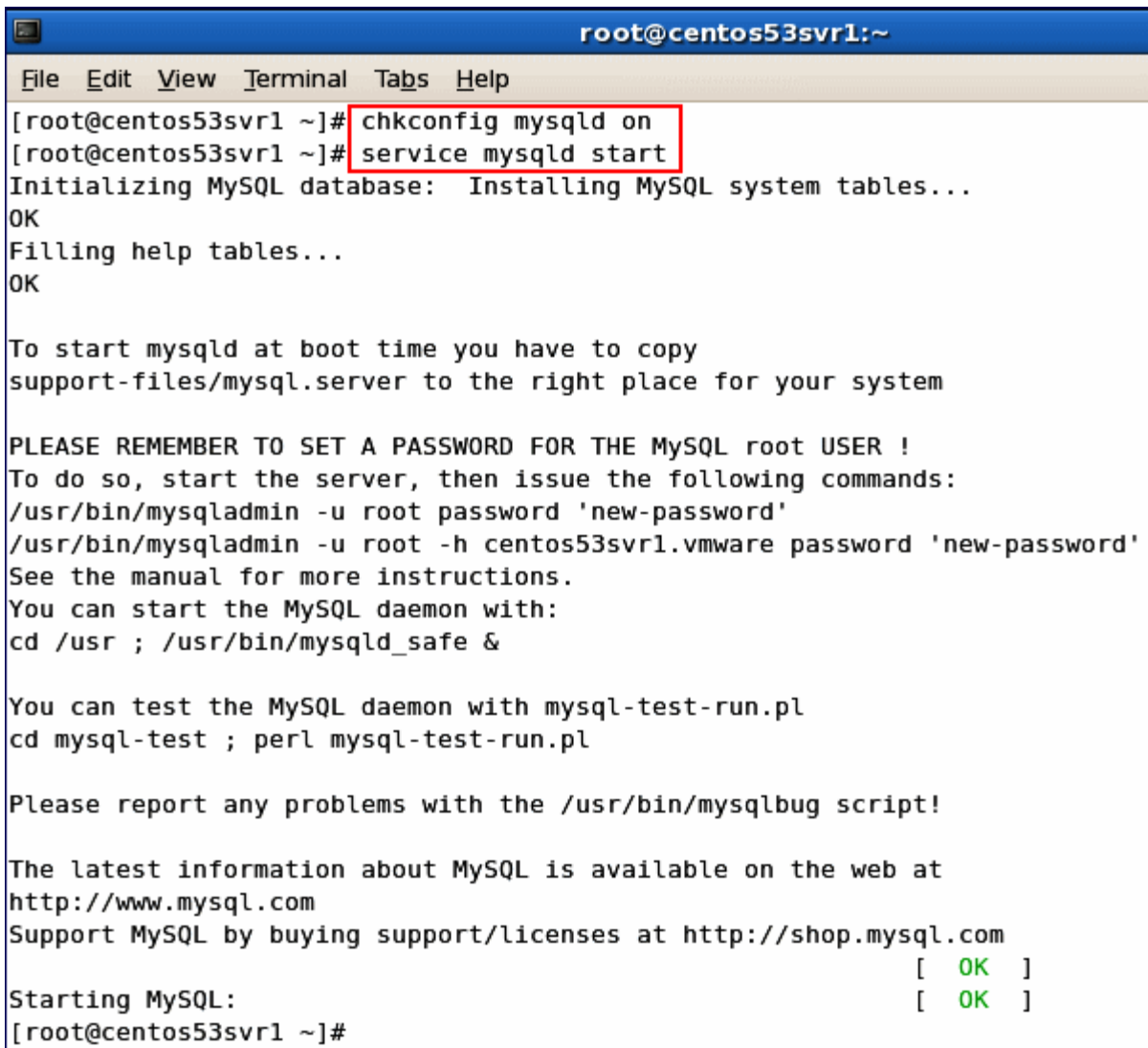
```

```
root@centos53svr1:~
File Edit View Terminal Tabs Help
Transaction Summary
=====
Install      2 Package(s)
Update       0 Package(s)
Remove       0 Package(s)

Total download size: 9.8 M
Is this ok [y/N]: y
Downloading Packages:
(1/2): perl-DBD-MySQL-3.0007-2.el5.i386.rpm | 148 kB  00:02
(2/2): mysql-server-5.0.45-7.el5.i386.rpm | 9.7 MB  01:04
-----
Total                                     142 kB/s | 9.8 MB  01:10
warning: rpmts_HdrFromFdno: Header V3 DSA signature: NOKEY, key ID e8562897
Importing GPG key 0xE8562897 "CentOS-5 Key (CentOS 5 Official Signing Key) <centos-5-key@centos.org>" from /etc/pki/rpm-gpg/RPM-GPG-KEY-CentOS-5
Is this ok [y/N]: y
Running rpm_check_debug
Running Transaction Test
Finished Transaction Test
Transaction Test Succeeded
Running Transaction
  Installing      : perl-DBD-MySQL                [1/2]
  Installing      : mysql-server                  [2/2]

Installed: mysql-server.i386 0:5.0.45-7.el5
Dependency Installed: perl-DBD-MySQL.i386 0:3.0007-2.el5
Complete!
[root@centos53svr3 ~]#
```

8. Set MySQL to **Auto-Start** using *chkconfig mysqld on* and then start the service immediately using *service mysqld start*.



```
root@centos53svr1:~
File Edit View Terminal Tabs Help
[root@centos53svr1 ~]# chkconfig mysqld on
[root@centos53svr1 ~]# service mysqld start
Initializing MySQL database: Installing MySQL system tables...
OK
Filling help tables...
OK

To start mysqld at boot time you have to copy
support-files/mysql.server to the right place for your system

PLEASE REMEMBER TO SET A PASSWORD FOR THE MySQL root USER !
To do so, start the server, then issue the following commands:
/usr/bin/mysqladmin -u root password 'new-password'
/usr/bin/mysqladmin -u root -h centos53svr1.vmware password 'new-password'
See the manual for more instructions.
You can start the MySQL daemon with:
cd /usr ; /usr/bin/mysqld_safe &

You can test the MySQL daemon with mysql-test-run.pl
cd mysql-test ; perl mysql-test-run.pl

Please report any problems with the /usr/bin/mysqlbug script!

The latest information about MySQL is available on the web at
http://www.mysql.com
Support MySQL by buying support/licenses at http://shop.mysql.com
Starting MySQL: [ OK ]
[root@centos53svr1 ~]#
```



9. Set MySQL root password.

```

root@centos53svr1:~
File Edit View Terminal Tabs Help
[root@centos53svr1 ~]# /usr/bin/mysqladmin -u root password 'mysql'
[root@centos53svr1 ~]# /usr/bin/mysqladmin -u root -p create icewarp_accounts
Enter password:
[root@centos53svr1 ~]# /usr/bin/mysqladmin -u root -p create icewarp_antispam
Enter password:
[root@centos53svr1 ~]# /usr/bin/mysqladmin -u root -p create icewarp_groupware
Enter password:
[root@centos53svr1 ~]# /usr/bin/mysqladmin -u root -p create icewarp_webmail
Enter password:
[root@centos53svr1 ~]# /usr/bin/mysqladmin -u root -p create icewarp_loganalyzer
Enter password:
[root@centos53svr1 ~]# █

```

10. Create databases for IceWarp Server in MySQL.

```

root@centos53svr1:~
File Edit View Terminal Tabs Help
[root@centos53svr1 ~]# /usr/bin/mysqladmin -u root password 'mysql'
[root@centos53svr1 ~]# /usr/bin/mysqladmin -u root -p create icewarp_accounts
Enter password:
[root@centos53svr1 ~]# /usr/bin/mysqladmin -u root -p create icewarp_antispam
Enter password:
[root@centos53svr1 ~]# /usr/bin/mysqladmin -u root -p create icewarp_groupware
Enter password:
[root@centos53svr1 ~]# /usr/bin/mysqladmin -u root -p create icewarp_webmail
Enter password:
[root@centos53svr1 ~]# /usr/bin/mysqladmin -u root -p create icewarp_loganalyzer
Enter password:
[root@centos53svr1 ~]# █

```

It is recommended to add the character set option to the create command.

E. g.:

```
/usr/bin/mysql -u root -p create database icewarp_accounts DEFAULT CHARACTER SET utf8 COLLATE utf8_general_ci
```

```
/usr/bin/mysql -u root -p create database icewarp_antispam DEFAULT CHARACTER SET utf8 COLLATE utf8_general_ci
```

etc.

NOTE: You can specify the collation set for different languages. E.g. for Swedish: ... **utf8\_swedish\_ci**

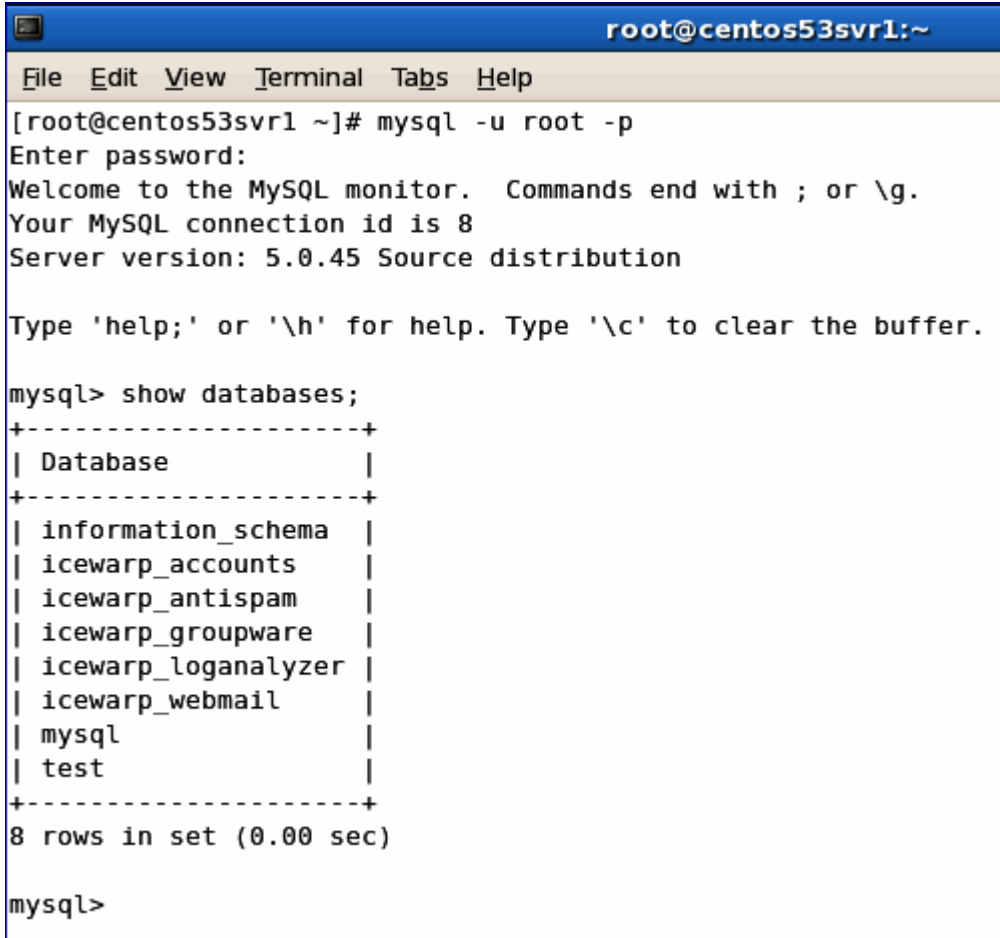
Follow this link to verify your collation set for proper MySQL sorting:

**<http://www.collation-charts.org/mysql60/>** <http://www.collation-charts.org/mysql60/>

NOTE: InnoDB should be used as MySQL engine. This can be done by adding the following line into the **/etc/my.cnf** file:

**default-storage-engine=INNODB**

11. Verify tables created in MySQL.



```
root@centos53svr1:~
File Edit View Terminal Tabs Help
[root@centos53svr1 ~]# mysql -u root -p
Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 8
Server version: 5.0.45 Source distribution

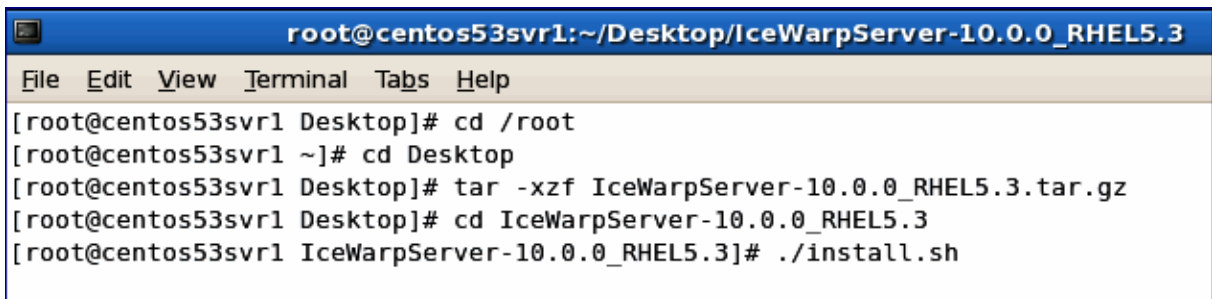
Type 'help;' or '\h' for help. Type '\c' to clear the buffer.

mysql> show databases;
+-----+
| Database                |
+-----+
| information_schema      |
| icewarp_accounts        |
| icewarp_antispam        |
| icewarp_groupware       |
| icewarp_loganalyzer     |
| icewarp_webmail         |
| mysql                   |
| test                    |
+-----+
8 rows in set (0.00 sec)

mysql>
```

12. Begin IceWarp Server installation by running install.sh with root privileges.

**NOTE: When the installer asks for "Installation prefix", you can enter the installation directory of the already installed server. In this case, upgrade will be started.**



```
root@centos53svr1:~/Desktop/IceWarpServer-10.0.0_RHEL5.3
File Edit View Terminal Tabs Help
[root@centos53svr1 Desktop]# cd /root
[root@centos53svr1 ~]# cd Desktop
[root@centos53svr1 Desktop]# tar -xzf IceWarpServer-10.0.0_RHEL5.3.tar.gz
[root@centos53svr1 Desktop]# cd IceWarpServer-10.0.0_RHEL5.3
[root@centos53svr1 IceWarpServer-10.0.0_RHEL5.3]# ./install.sh
```

## 13. Dependencies Check

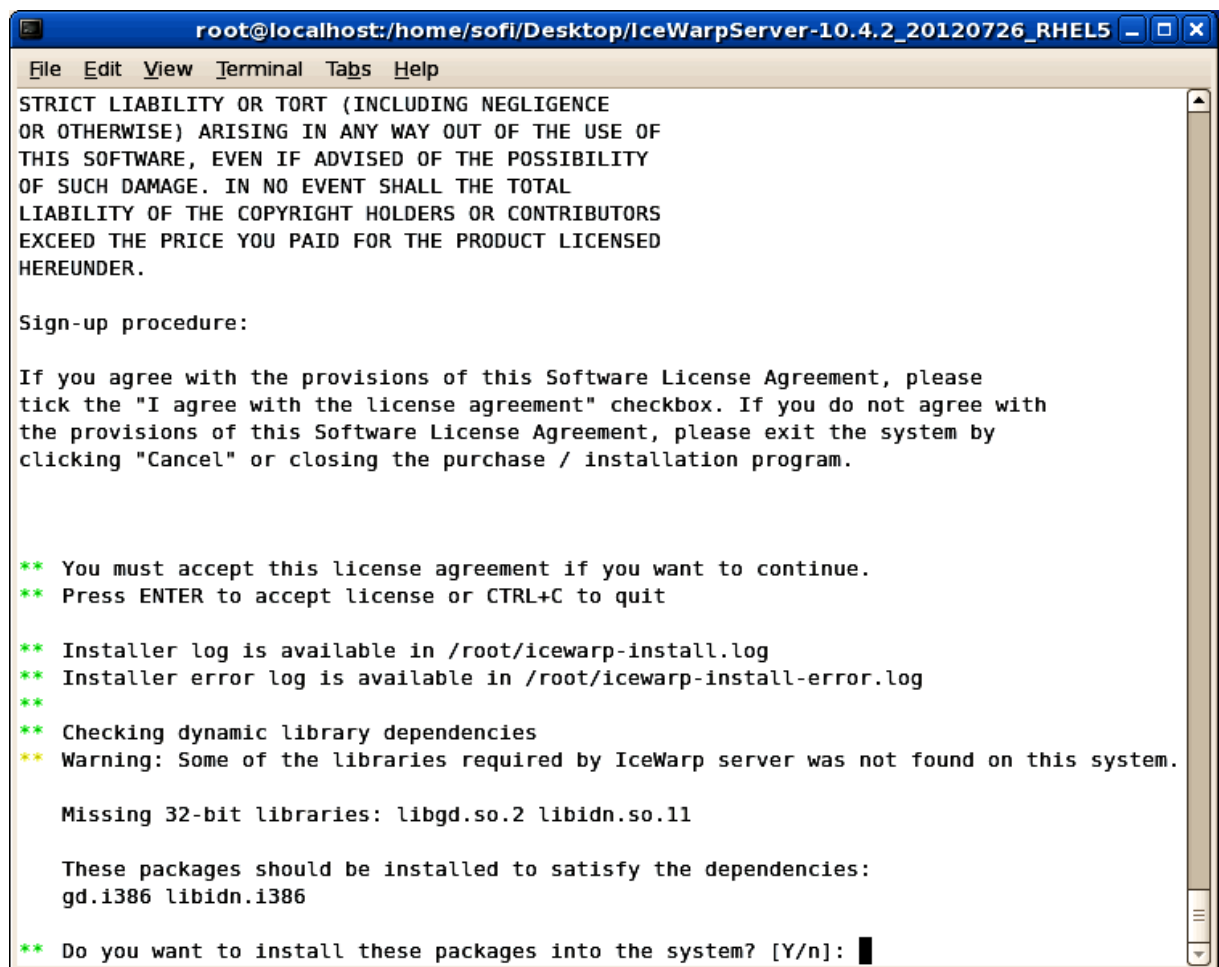
Dynamic library dependencies are now checked by the installer. It checks dependencies of all binaries included in IceWarp Server, i.e. IceWarp Server itself, embedded LDAP Server and all Purple plugins. When setup detects any librarie(s) are missing, it prints them out together with information, which packages contain missing libraries.

You have the possibility to let the setup run the package manager and install suggested packages. The dependencies are checked again after installation, whether they are installed or still missing.

You can also reject installation of detected dependencies and setup will continue. However, some binaries coming with IceWarp Server will not execute until you install the libraries manually.

**NOTE: 32bit libraries are installed, which sometimes causes a conflict with already installed 64bit libraries. System update is often the solution of this problem.**

For the full list of dependencies, refer to the **Dynamic Library Dependencies** (see "IceWarp Server – Dynamic Library Dependencies" on page 39) chapter.



```
root@localhost:/home/sofi/Desktop/IceWarpServer-10.4.2_20120726_RHEL5
File Edit View Terminal Tabs Help
STRICT LIABILITY OR TORT (INCLUDING NEGLIGENCE
OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF
THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY
OF SUCH DAMAGE. IN NO EVENT SHALL THE TOTAL
LIABILITY OF THE COPYRIGHT HOLDERS OR CONTRIBUTORS
EXCEED THE PRICE YOU PAID FOR THE PRODUCT LICENSED
HEREUNDER.

Sign-up procedure:

If you agree with the provisions of this Software License Agreement, please
tick the "I agree with the license agreement" checkbox. If you do not agree with
the provisions of this Software License Agreement, please exit the system by
clicking "Cancel" or closing the purchase / installation program.

** You must accept this license agreement if you want to continue.
** Press ENTER to accept license or CTRL+C to quit

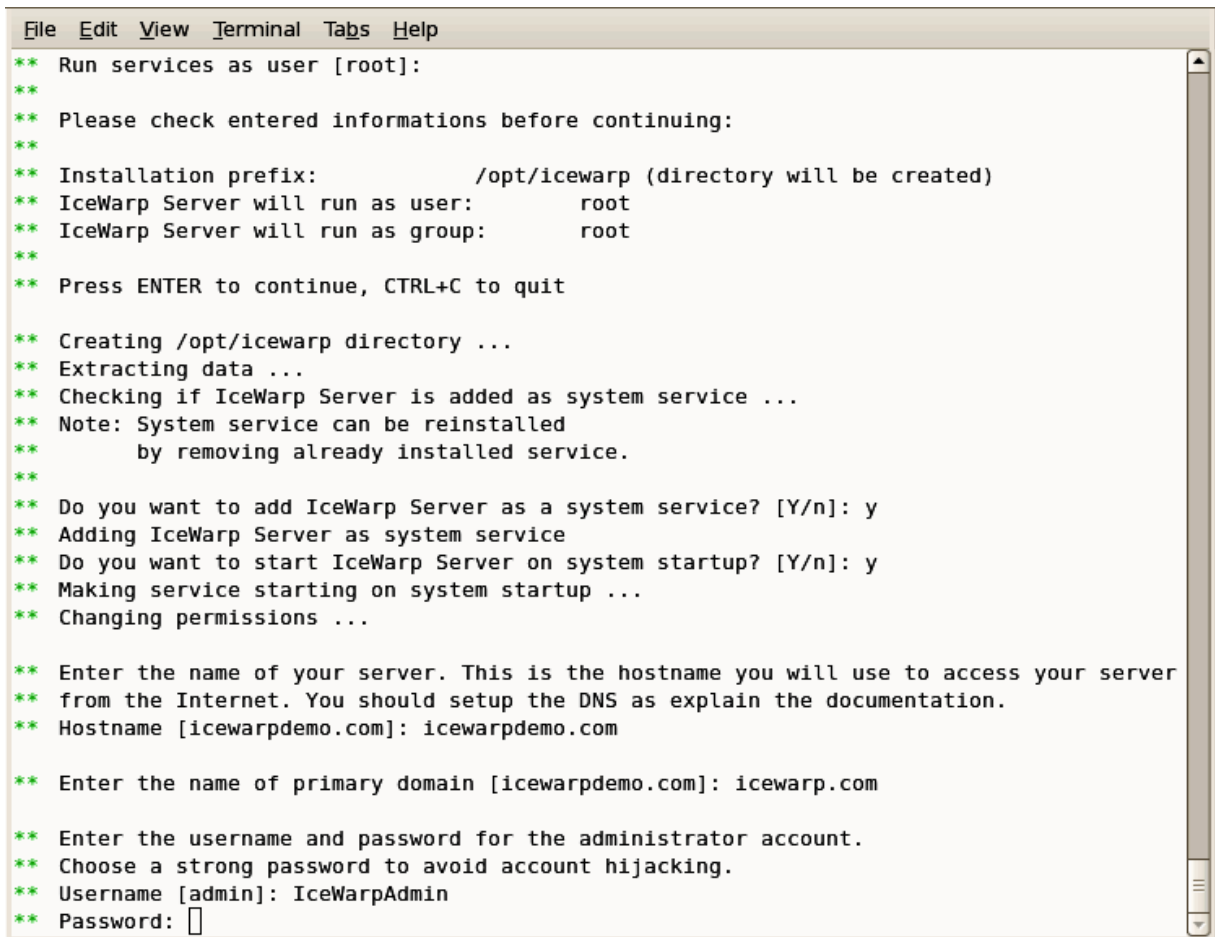
** Installer log is available in /root/icewarp-install.log
** Installer error log is available in /root/icewarp-install-error.log
**
** Checking dynamic library dependencies
** Warning: Some of the libraries required by IceWarp server was not found on this system.

Missing 32-bit libraries: libgd.so.2 libidn.so.11

These packages should be installed to satisfy the dependencies:
gd.i386 libidn.i386

** Do you want to install these packages into the system? [Y/n]: █
```

## 14. Administrator Account:



```
File Edit View Terminal Tabs Help
** Run services as user [root]:
**
** Please check entered informations before continuing:
**
** Installation prefix:          /opt/icewarp (directory will be created)
** IceWarp Server will run as user:      root
** IceWarp Server will run as group:     root
**
** Press ENTER to continue, CTRL+C to quit

** Creating /opt/icewarp directory ...
** Extracting data ...
** Checking if IceWarp Server is added as system service ...
** Note: System service can be reinstalled
**       by removing already installed service.
**
** Do you want to add IceWarp Server as a system service? [Y/n]: y
** Adding IceWarp Server as system service
** Do you want to start IceWarp Server on system startup? [Y/n]: y
** Making service starting on system startup ...
** Changing permissions ...

** Enter the name of your server. This is the hostname you will use to access your server
** from the Internet. You should setup the DNS as explain the documentation.
** Hostname [icewarpdemo.com]: icewarpdemo.com

** Enter the name of primary domain [icewarpdemo.com]: icewarp.com

** Enter the username and password for the administrator account.
** Choose a strong password to avoid account hijacking.
** Username [admin]: IceWarpAdmin
** Password: [ ]
```

**Hostname:** Fill in the DNS resolvable hostname, the default is taken from system. Warning – if the system hostname is not set correctly, AntiSpam Live does not work.

**Domain:** Primary domain name.

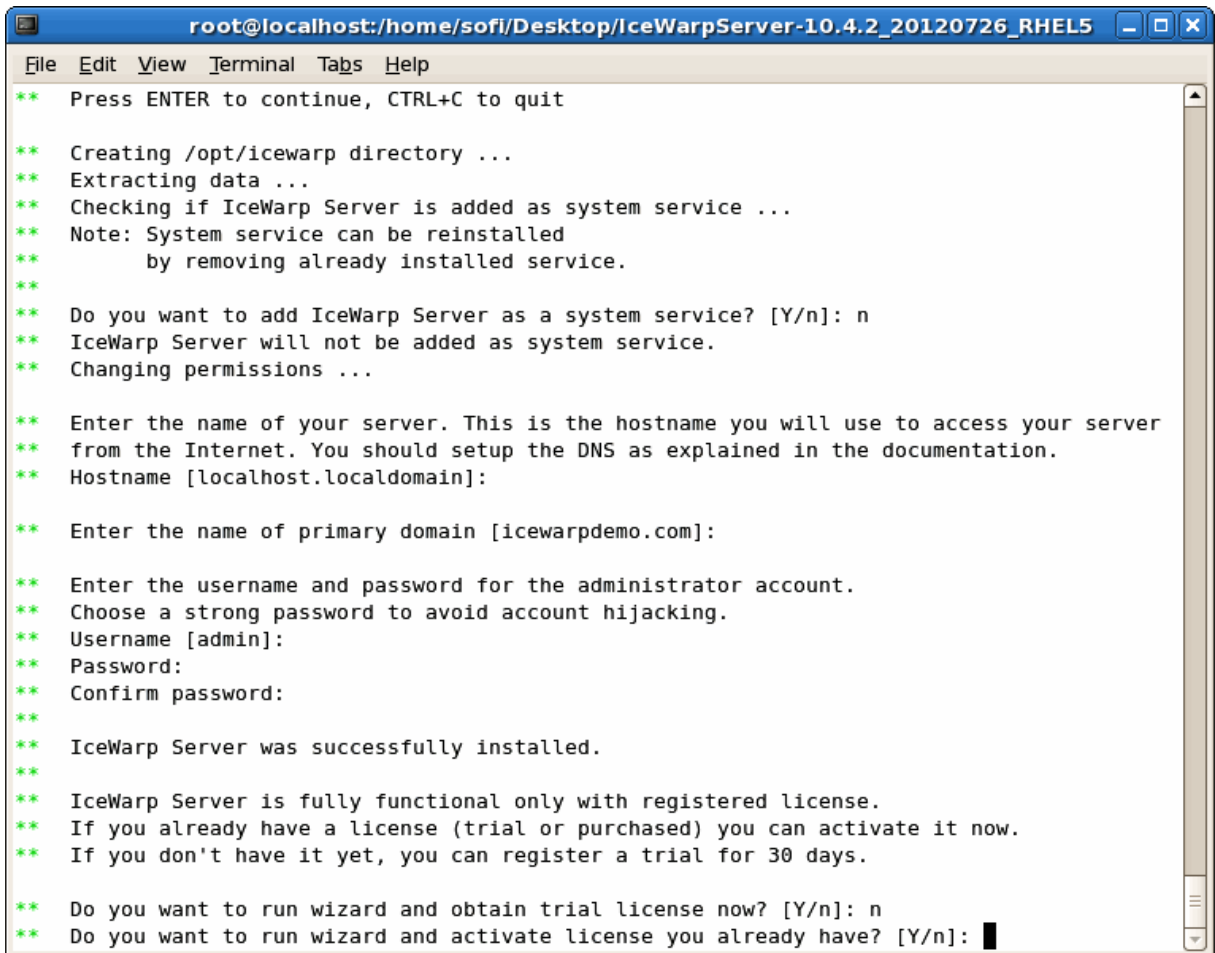
**Administrator account:** Username and password. Consider password policy – it is in effect. In case of any error, a user can retry or cancel the "wizard". Then they can configure the server manually using **wizard.sh** or other method.

## 15. License

IceWarp Server needs to have registered license to be fully functional. This can be purchased license or a trial one. After installation, setup will ask whether you want to register a trial license or activate a full one that you already have (purchased or a trial obtained from web). In this case, you will need to have ready the **Order-ID** of your license.

If you do not register any license, some components (e.g. WebAdmin) will not be available.

For information on license registration, refer to the **New License Registration** section further in this chapter.



```
root@localhost:/home/sofi/Desktop/IceWarpServer-10.4.2_20120726_RHEL5
File Edit View Terminal Tabs Help
** Press ENTER to continue, CTRL+C to quit
** Creating /opt/icewarp directory ...
** Extracting data ...
** Checking if IceWarp Server is added as system service ...
** Note: System service can be reinstalled
**     by removing already installed service.
**
** Do you want to add IceWarp Server as a system service? [Y/n]: n
** IceWarp Server will not be added as system service.
** Changing permissions ...
**
** Enter the name of your server. This is the hostname you will use to access your server
** from the Internet. You should setup the DNS as explained in the documentation.
** Hostname [localhost.localdomain]:
**
** Enter the name of primary domain [icewarpdemo.com]:
**
** Enter the username and password for the administrator account.
** Choose a strong password to avoid account hijacking.
** Username [admin]:
** Password:
** Confirm password:
**
** IceWarp Server was successfully installed.
**
** IceWarp Server is fully functional only with registered license.
** If you already have a license (trial or purchased) you can activate it now.
** If you don't have it yet, you can register a trial for 30 days.
**
** Do you want to run wizard and obtain trial license now? [Y/n]: n
** Do you want to run wizard and activate license you already have? [Y/n]: █
```

16. Installation is completed now:

```
File Edit View Terminal Tabs Help
** IceWarp Server will run as group:      root
**
** Press ENTER to continue, CTRL+C to quit
**
** Creating /opt/icewarp directory ...
** Extracting data ...
** Checking if IceWarp Server is added as system service ...
** Note: System service can be reinstalled
**       by removing already installed service.
**
** Do you want to add IceWarp Server as a system service? [Y/n]: y
** Adding IceWarp Server as system service
** Do you want to start IceWarp Server on system startup? [Y/n]: y
** Making service starting on system startup ...
** Changing permissions ...
**
** Enter the name of your server. This is the hostname you will use to access your server
** from the Internet. You should setup the DNS as explain the documentation.
** Hostname [icewarpdemo.com]: icewarpdemo.com
**
** Enter the name of primary domain [icewarpdemo.com]: icewarp.com
**
** Enter the username and password for the administrator account.
** Choose a strong password to avoid account hijacking.
** Username [admin]: IceWarpAdmin
** Password:
**
** IceWarp Server was successfully installed.
**
** Installer log is available in /root/icewarp-install.log
** Installer error log is available in /root/icewarp-install-error.log
[root@localhost ~]#
```

17. Run the IceWarp Wizard immediately after installation or at a later stage by executing ***./wizard.sh*** from the ***/install\_volume/icewarp*** ie. ***/opt/icewarp***.

**NOTE: If you want to change a groupware storage, the GW service has to be started first.**

```
root@centos53svr3:/opt/icewarp
File Edit View Terminal Tabs Help
**
**      Root menu
**      -----
**
**      You have the following options:
**
**      [1] Accounts and Domains management
**      [2] License operations
**      [3] Storage setup
**
**      [0] Return
**      [Q] Exit
**
**      Enter your choice:
```

18. Change storage setup to MySQL [3] for Accounts, AntiSpam and GroupWare.

```
root@centos53svr3:/opt/icewarp
File Edit View Terminal Tabs Help
**
**      Root menu
**      -----
**
**      You have the following options:
**
**      [1] Accounts and Domains management
**      [2] License operations
**      [3] Storage setup
**
**      [0] Return
**      [Q] Exit
**
**      Enter your choice:
```

```
root@centos53svr3:/opt/icewarp
File Edit View Terminal Tabs Help
**
**      Storage setup
**      -----
**
**      You have the following options:
**
**      [1] Set Accounts storage
**      [2] Set Antispam storage
**      [3] Set GroupWare storage
**
**      [0] Return
**      [Q] Exit
**
**      Enter your choice: █
```



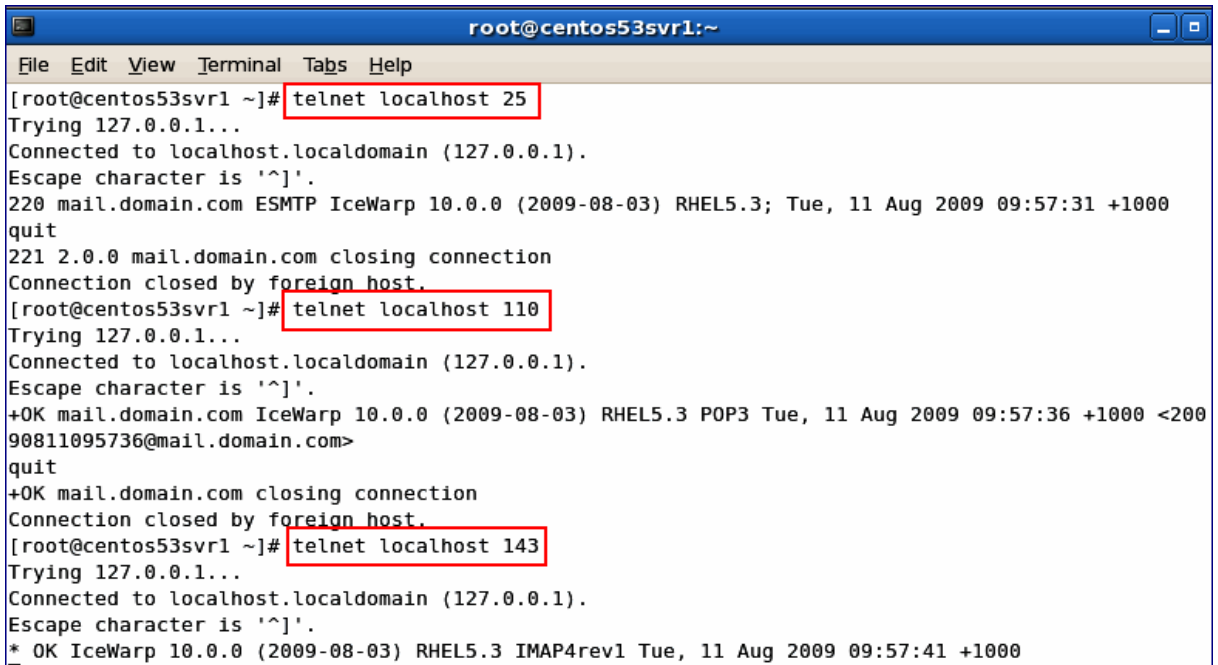
```
root@centos53svr1:/opt/icewarp
File Edit View Terminal Tabs Help
**      [2] Setup to use MySQL database
**      [3] Setup to use SQLite database
**
**      [0] Return
**      [Q] Exit
**
**      Enter your choice: 2
**
**
**      This action requires to have running MySQL server with
**      created database with required privileges.
**      Continue? [Y/n]: y
**
**      Setup Accounts storage to MySQL? [Y/n]: y
**
**      Please enter MySQL connection parameters:
**      Database server host (or path to socket) [/var/lib/mysql/mysql.sock]:
**      Login name: root
**      Login password: **
**      Once again to confirm: **
**      Database name: icewarp_accounts
**      Setting database connection...
**
**      Create tables for Accounts? [Y/n]: y
**      Creating tables...
**      Switching Accounts storage mode...
**      Storage switched to MySQL.
**
**      Convert data from file system to database? [Y/n]: y
```

19. IceWarp Server installation done!

Logs are available at */root/icewarp-install.log* & */root/icewarp-install-error.log*.

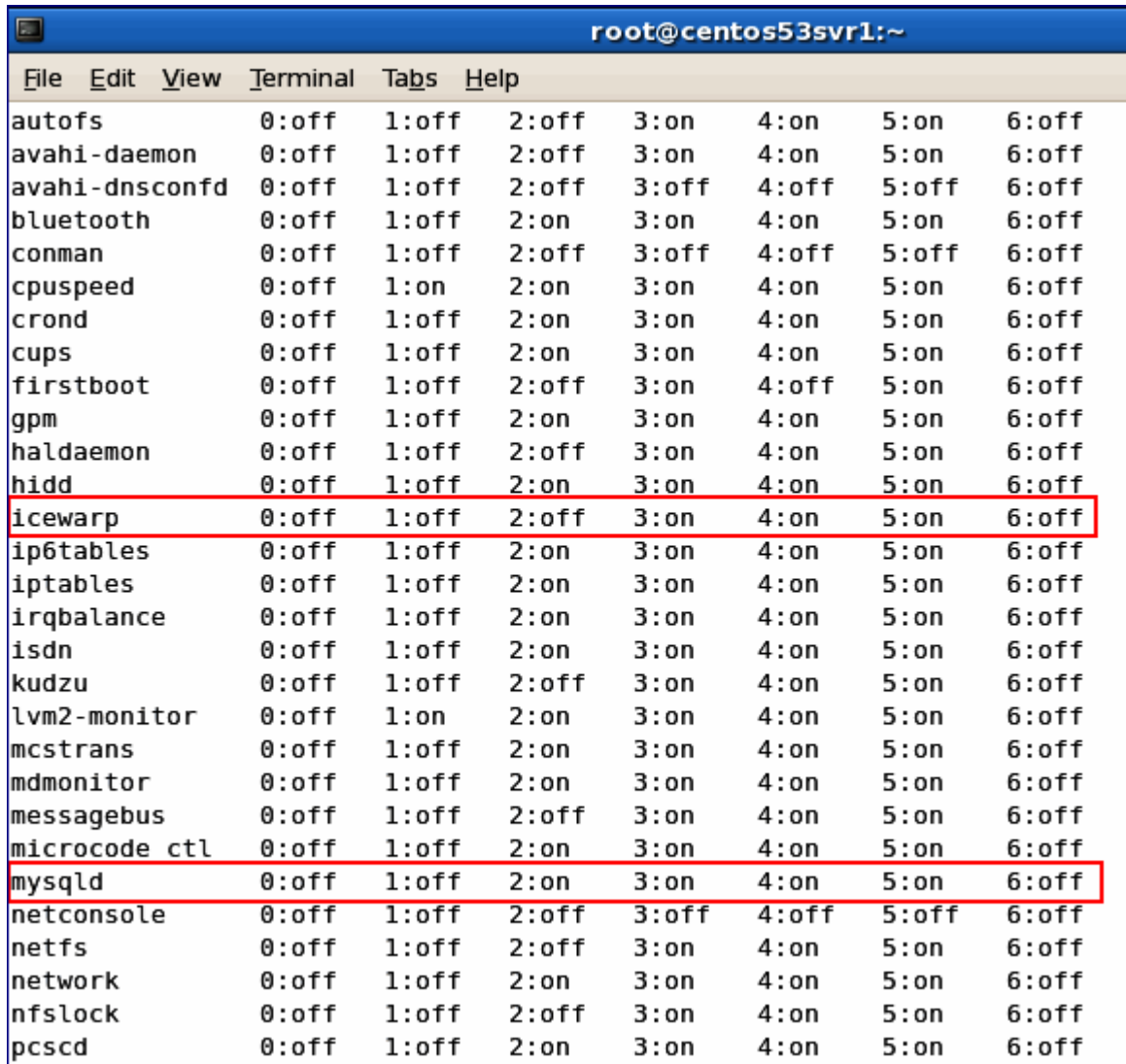
Run the IceWarp Services by executing *./icewarpd.sh --start* from the */install\_volume/icewarp* ie. */opt/icewarp*.

20. Next, verify that primary IceWarp Server services are operating properly.



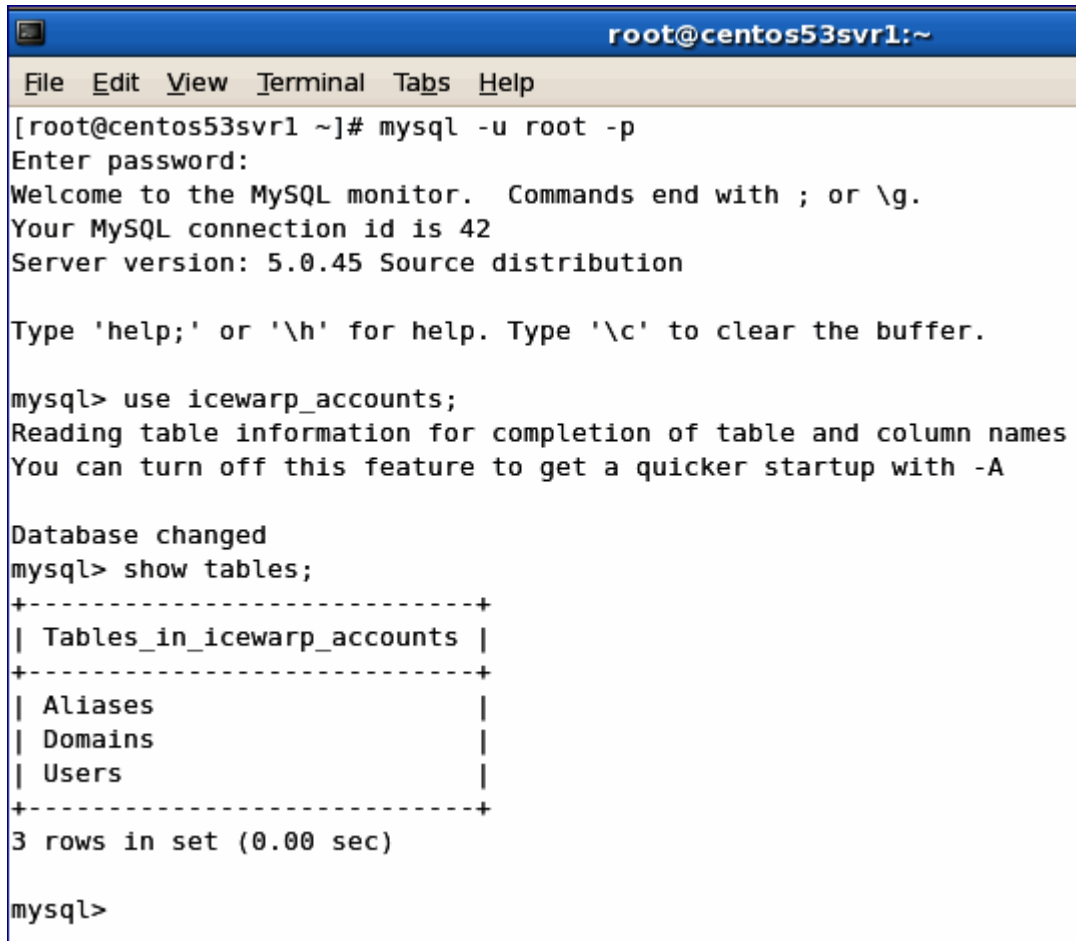
```
root@centos53svr1:~  
File Edit View Terminal Tabs Help  
[root@centos53svr1 ~]# telnet localhost 25  
Trying 127.0.0.1...  
Connected to localhost.localdomain (127.0.0.1).  
Escape character is '^]'.  
220 mail.domain.com ESMTP IceWarp 10.0.0 (2009-08-03) RHEL5.3; Tue, 11 Aug 2009 09:57:31 +1000  
quit  
221 2.0.0 mail.domain.com closing connection  
Connection closed by foreign host.  
[root@centos53svr1 ~]# telnet localhost 110  
Trying 127.0.0.1...  
Connected to localhost.localdomain (127.0.0.1).  
Escape character is '^]'.  
+OK mail.domain.com IceWarp 10.0.0 (2009-08-03) RHEL5.3 POP3 Tue, 11 Aug 2009 09:57:36 +1000 <20090811095736@mail.domain.com>  
quit  
+OK mail.domain.com closing connection  
Connection closed by foreign host.  
[root@centos53svr1 ~]# telnet localhost 143  
Trying 127.0.0.1...  
Connected to localhost.localdomain (127.0.0.1).  
Escape character is '^]'.  
* OK IceWarp 10.0.0 (2009-08-03) RHEL5.3 IMAP4rev1 Tue, 11 Aug 2009 09:57:41 +1000
```

21. Check services startup using `chkconfig --list | grep on`.



File	Edit	View	Terminal	Tab	Help				
autofs			0:off	1:off	2:off	3:on	4:on	5:on	6:off
avahi-daemon			0:off	1:off	2:off	3:on	4:on	5:on	6:off
avahi-dnsmconfd			0:off	1:off	2:off	3:off	4:off	5:off	6:off
bluetooth			0:off	1:off	2:on	3:on	4:on	5:on	6:off
conman			0:off	1:off	2:off	3:off	4:off	5:off	6:off
cpuspeed			0:off	1:on	2:on	3:on	4:on	5:on	6:off
crond			0:off	1:off	2:on	3:on	4:on	5:on	6:off
cups			0:off	1:off	2:on	3:on	4:on	5:on	6:off
firstboot			0:off	1:off	2:off	3:on	4:off	5:on	6:off
gpm			0:off	1:off	2:on	3:on	4:on	5:on	6:off
haldaemon			0:off	1:off	2:off	3:on	4:on	5:on	6:off
hidd			0:off	1:off	2:on	3:on	4:on	5:on	6:off
icewarp			0:off	1:off	2:off	3:on	4:on	5:on	6:off
ip6tables			0:off	1:off	2:on	3:on	4:on	5:on	6:off
iptables			0:off	1:off	2:on	3:on	4:on	5:on	6:off
irqbalance			0:off	1:off	2:on	3:on	4:on	5:on	6:off
isdn			0:off	1:off	2:on	3:on	4:on	5:on	6:off
kudzu			0:off	1:off	2:off	3:on	4:on	5:on	6:off
lvm2-monitor			0:off	1:on	2:on	3:on	4:on	5:on	6:off
mcstrans			0:off	1:off	2:on	3:on	4:on	5:on	6:off
mdmonitor			0:off	1:off	2:on	3:on	4:on	5:on	6:off
messagebus			0:off	1:off	2:off	3:on	4:on	5:on	6:off
microcode_ctl			0:off	1:off	2:on	3:on	4:on	5:on	6:off
mysqld			0:off	1:off	2:on	3:on	4:on	5:on	6:off
netconsole			0:off	1:off	2:off	3:off	4:off	5:off	6:off
netfs			0:off	1:off	2:off	3:on	4:on	5:on	6:off
network			0:off	1:off	2:on	3:on	4:on	5:on	6:off
nfslock			0:off	1:off	2:off	3:on	4:on	5:on	6:off
pcscd			0:off	1:off	2:on	3:on	4:on	5:on	6:off

22. Check MySQL tables.



```
root@centos53svr1:~  
File Edit View Terminal Tabs Help  
[root@centos53svr1 ~]# mysql -u root -p  
Enter password:  
Welcome to the MySQL monitor.  Commands end with ; or \g.  
Your MySQL connection id is 42  
Server version: 5.0.45 Source distribution  
  
Type 'help;' or '\h' for help. Type '\c' to clear the buffer.  
  
mysql> use icewarp_accounts;  
Reading table information for completion of table and column names  
You can turn off this feature to get a quicker startup with -A  
  
Database changed  
mysql> show tables;  
+-----+  
| Tables_in_icewarp_accounts |  
+-----+  
| Aliases                    |  
| Domains                    |  
| Users                      |  
+-----+  
3 rows in set (0.00 sec)  
  
mysql>
```

```
root@centos53svr1:~
File Edit View Terminal Tabs Help
Your MySQL connection id is 42
Server version: 5.0.45 Source distribution

Type 'help;' or '\h' for help. Type '\c' to clear the buffer.

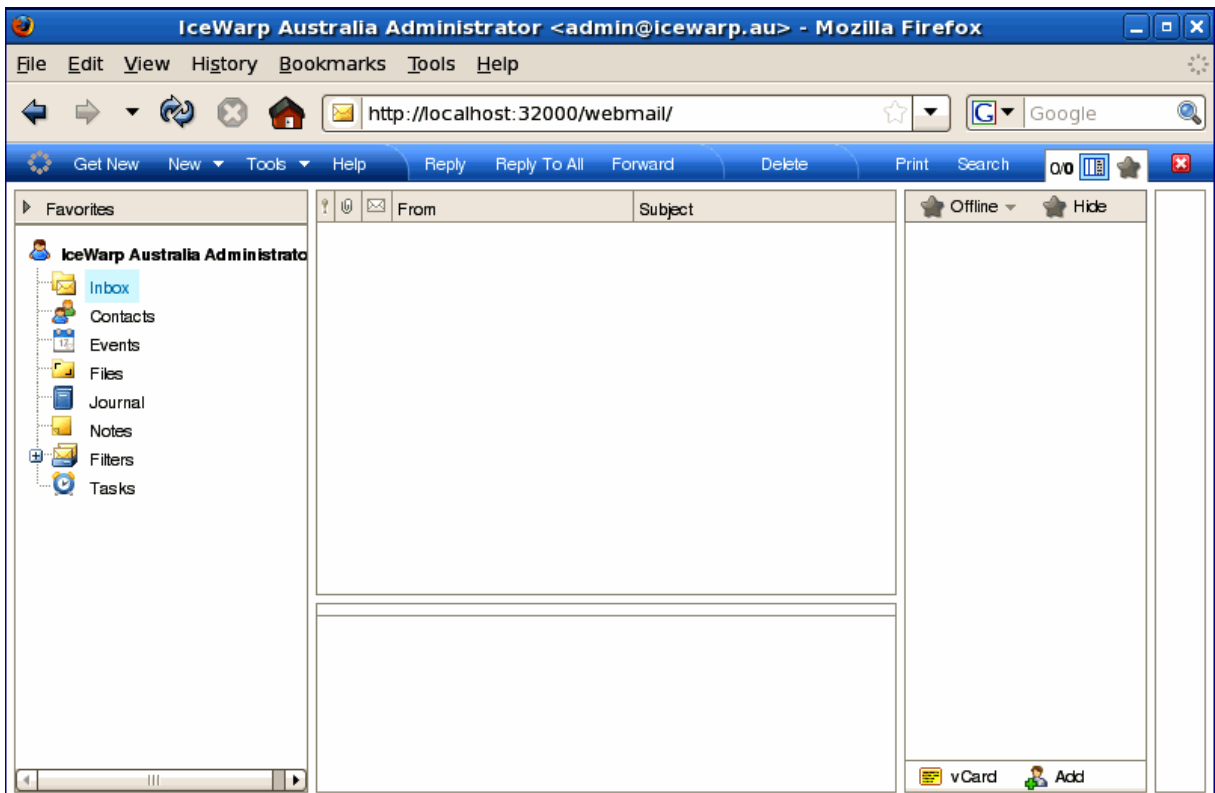
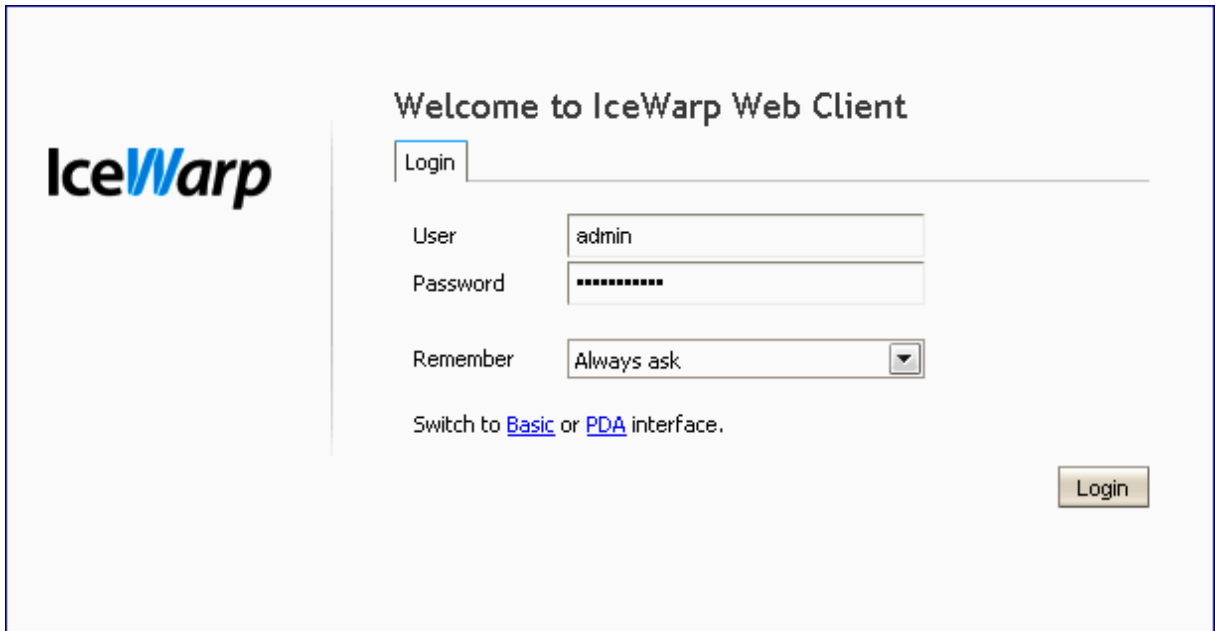
mysql> use icewarp_accounts;
Reading table information for completion of table and column names
You can turn off this feature to get a quicker startup with -A

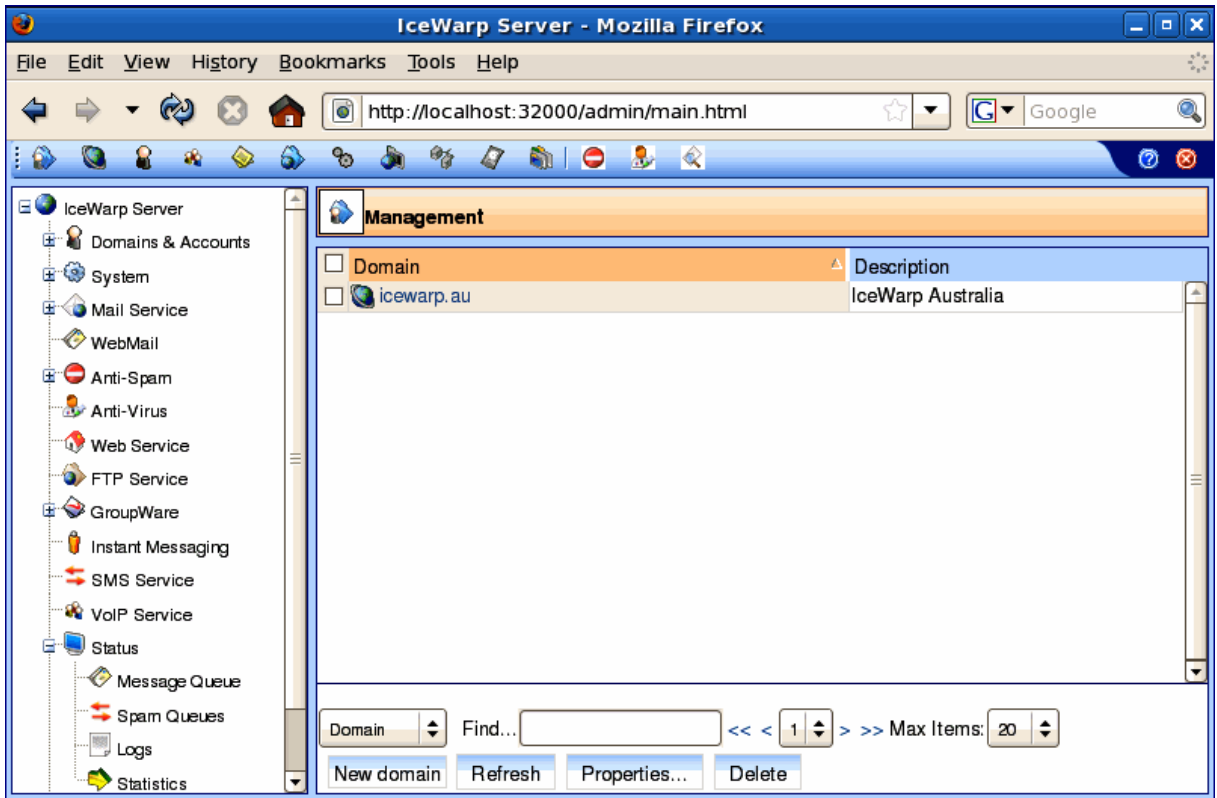
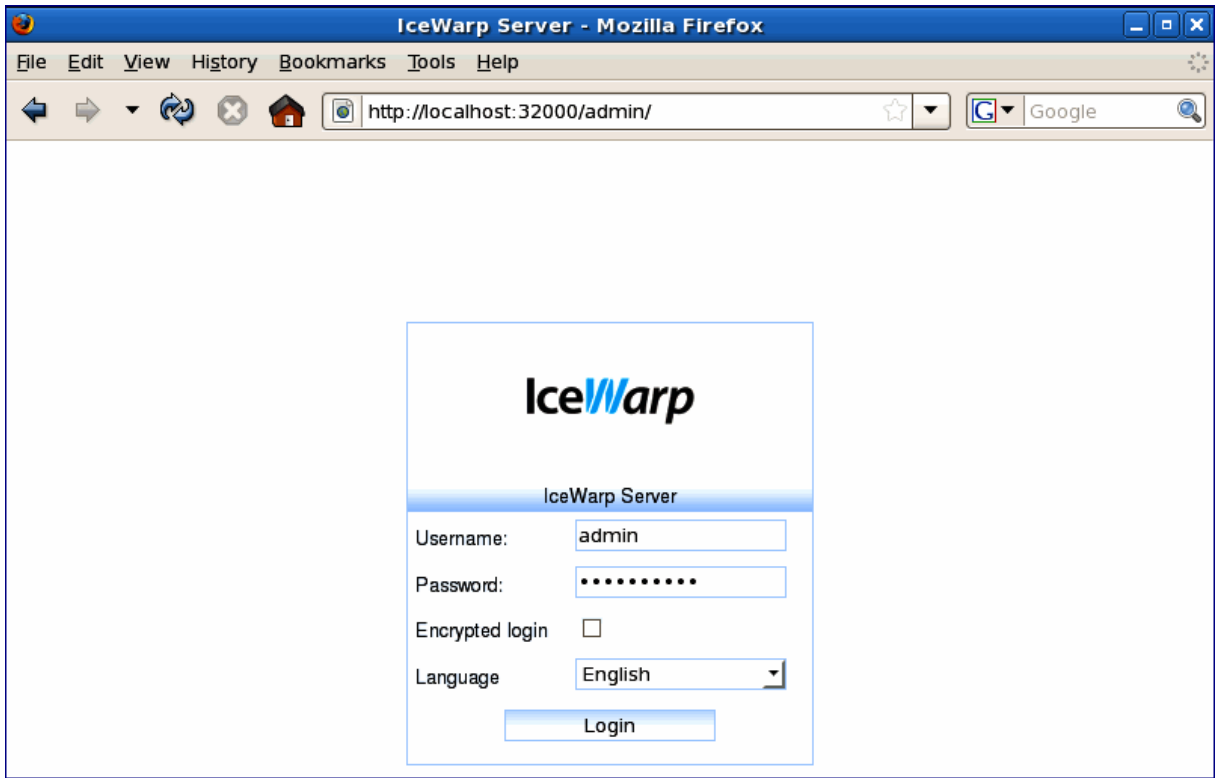
Database changed
mysql> show tables;
+-----+
| Tables_in_icewarp_accounts |
+-----+
| Aliases                    |
| Domains                    |
| Users                      |
+-----+
3 rows in set (0.00 sec)

mysql> select * from Aliases;
+-----+-----+-----+
| A_Alias | A_Domain  | A_UserID |
+-----+-----+-----+
| admin  | icewarp.au |          1 |
+-----+-----+-----+
1 row in set (0.00 sec)

mysql>
```

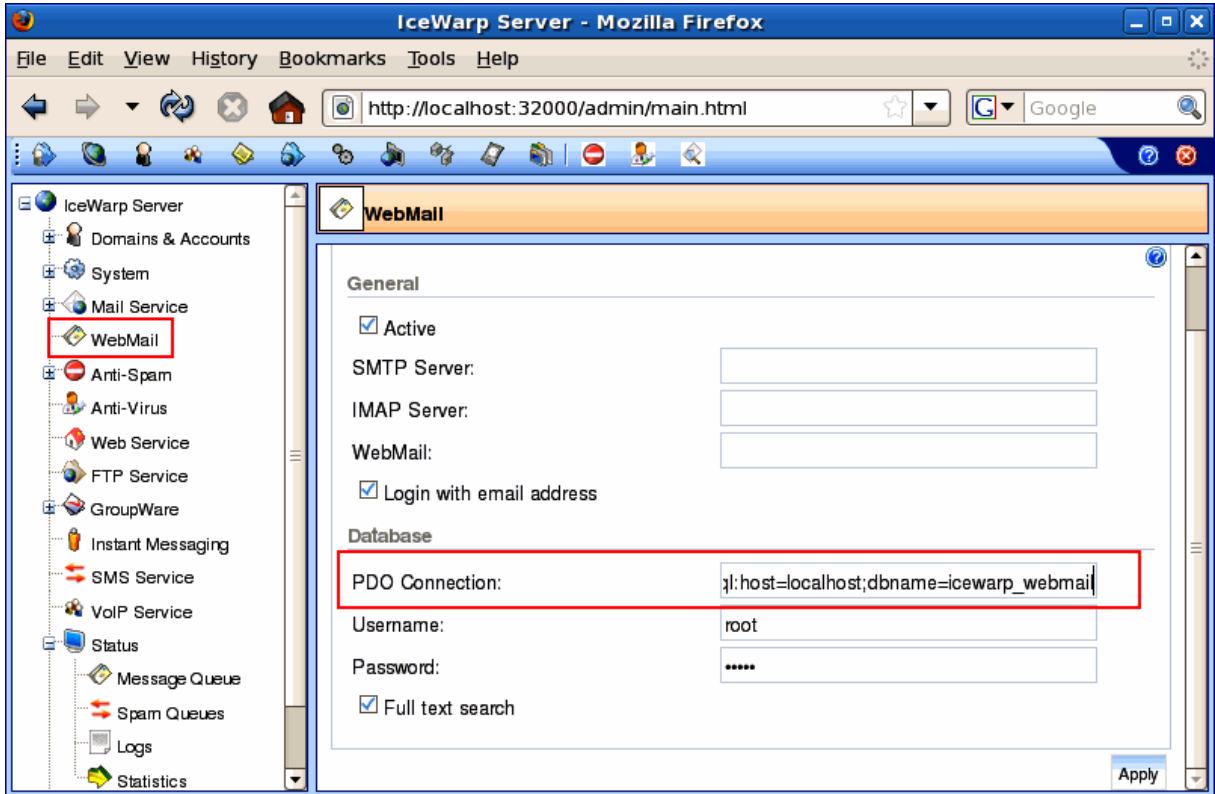
23. Check IceWarp WebClient, IceWarp WebClient Basic, WebAdmin and Remote Console login.





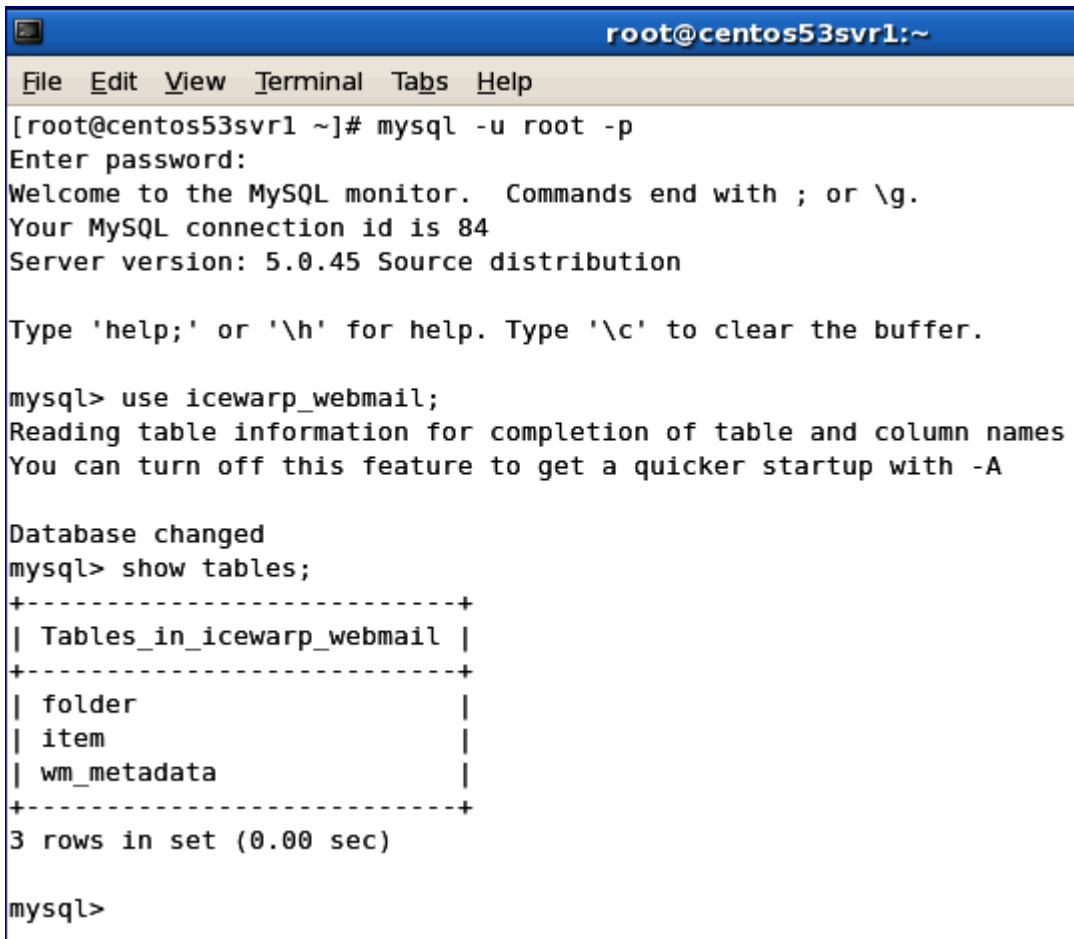
## Using MySQL Database for IceWarp WebClient

1. Change setting in IceWarp Server to use *icewarp\_webmail* database in MySQL.





2. After logging into IceWarp WebClient, IceWarp Server will create the necessary tables ...



```
root@centos53svr1:~
File Edit View Terminal Tabs Help
[root@centos53svr1 ~]# mysql -u root -p
Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 84
Server version: 5.0.45 Source distribution

Type 'help;' or '\h' for help. Type '\c' to clear the buffer.


mysql> use icewarp_webmail;
Reading table information for completion of table and column names
You can turn off this feature to get a quicker startup with -A

Database changed
mysql> show tables;
+-----+
| Tables_in_icewarp_webmail |
+-----+
| folder                    |
| item                      |
| wm_metadata               |
+-----+
3 rows in set (0.00 sec)

mysql>
```

## Installing Avast Anti-Virus Library

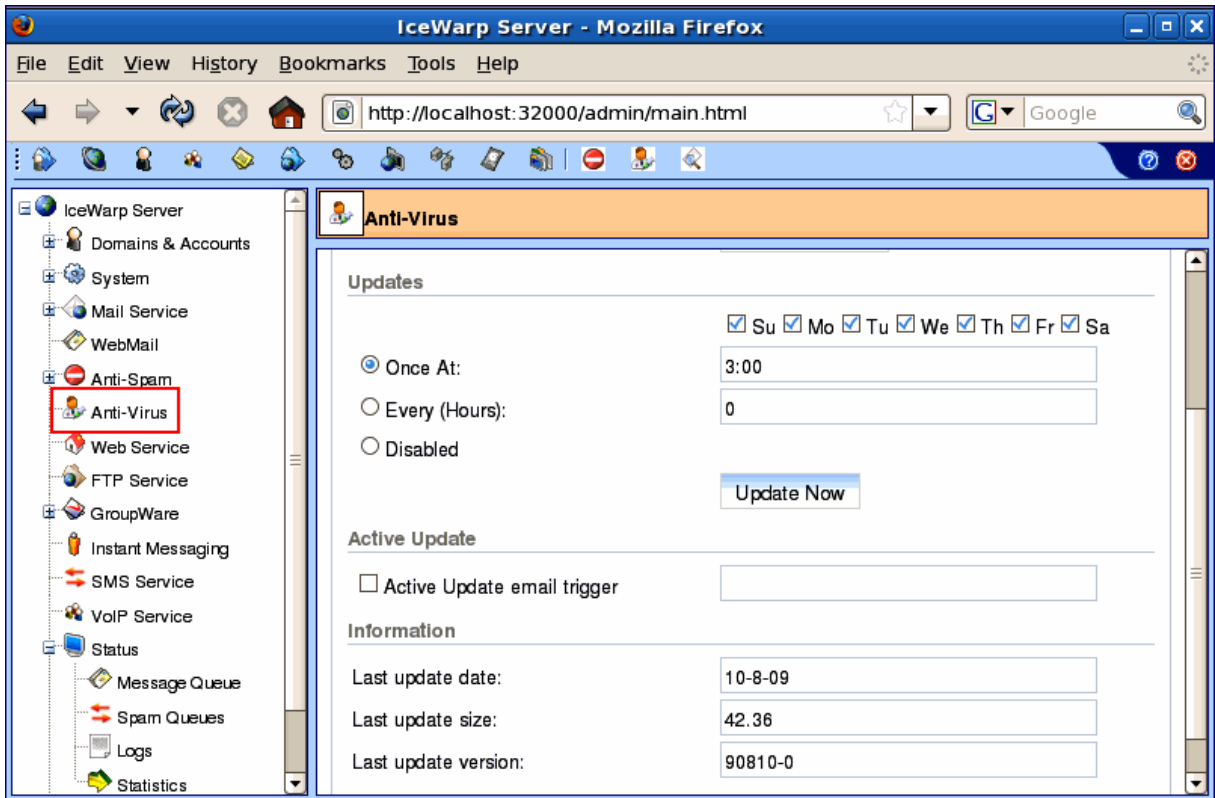
1. The `libavastengine.so` file is included in the IceWarp Server installation and is located in `<pathtoicewarp>/avast/`.



```
root@centos53svr1:/opt/icewarp/avast (on centos53svr1.vmware)
File Edit View Terminal Tabs Help
[root@centos53svr1 ~]# cd /opt/icewarp/avast
[root@centos53svr1 avast]# ls
avastvpsreload data libavastengine-4.so.7 libavastengine-4.so.7.0.2 libavastengine.so
[root@centos53svr1 avast]# █
```

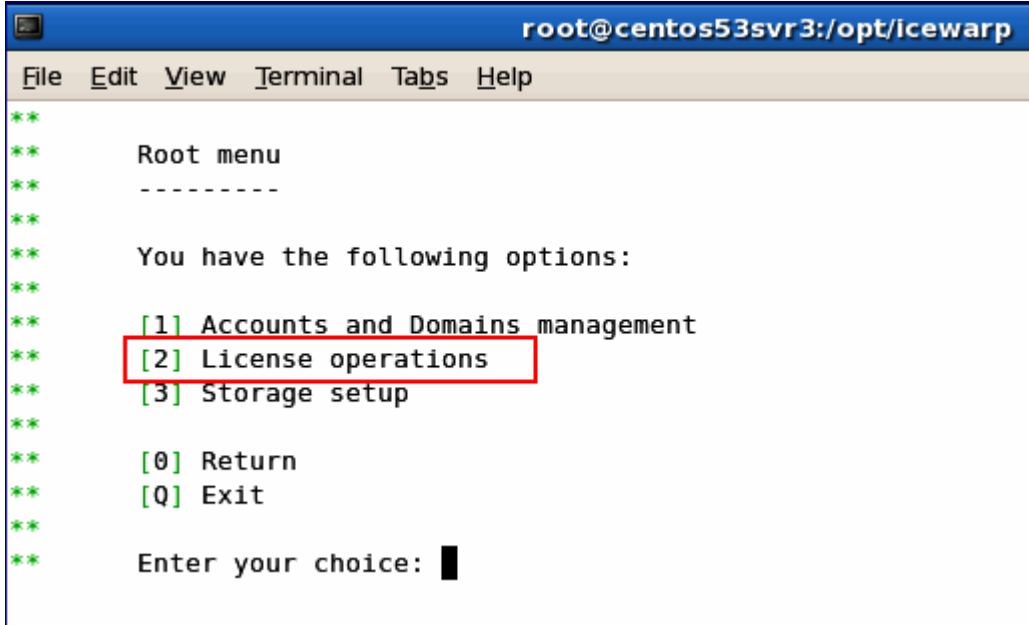
Link to `libavastengine.so` in the `/usr/lib` directory is not needed anymore.

2. You should be able to run the Anti-Virus engine update to download the latest definitions.



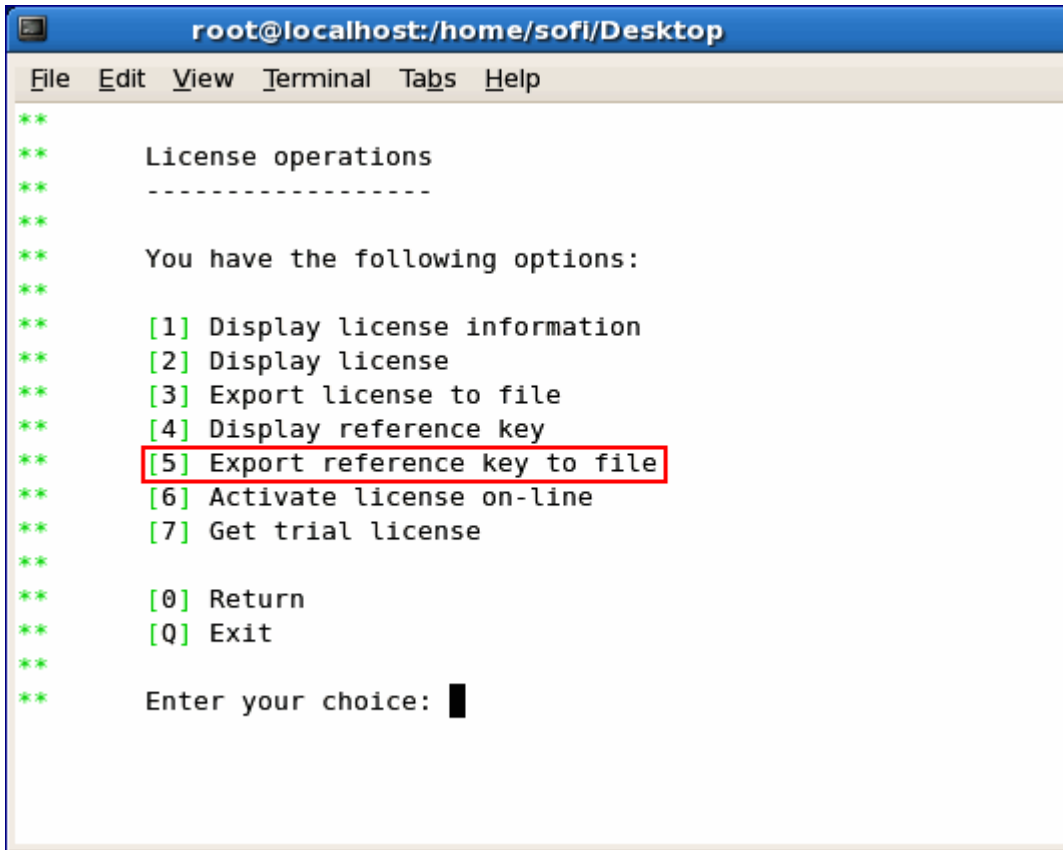
## New License Registration

1. Start the `./wizard.sh` from `<pathtoicewarp>` and go to **[2] License Operations**.



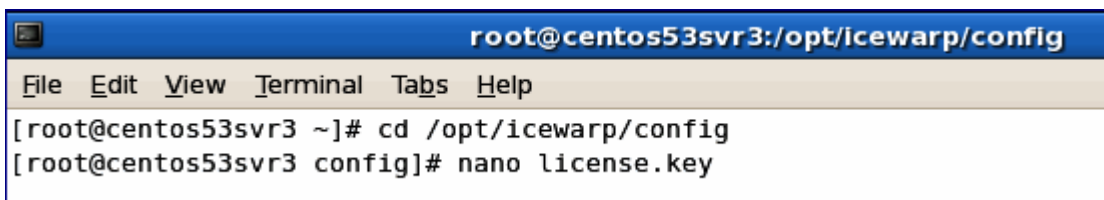
```
root@centos53svr3:/opt/icewarp
File Edit View Terminal Tabs Help
**
**      Root menu
**      -----
**
**      You have the following options:
**
**      [1] Accounts and Domains management
**      [2] License operations
**      [3] Storage setup
**
**      [0] Return
**      [Q] Exit
**
**      Enter your choice: █
```

2. Select **[5] Export reference key to file**, save the file to `<filename>.xml` and send it to your IceWarp Partner for processing of your new license key.



```
root@localhost:/home/sofi/Desktop
File Edit View Terminal Tabs Help
**
** License operations
** -----
**
** You have the following options:
**
** [1] Display license information
** [2] Display license
** [3] Export license to file
** [4] Display reference key
** [5] Export reference key to file
** [6] Activate license on-line
** [7] Get trial license
**
** [0] Return
** [Q] Exit
**
** Enter your choice: █
```

3. Once your NEW license has been processed, it will be e-mailed to you. Copy & paste the license block into `<pathtoicewarp>/config/license.key`.



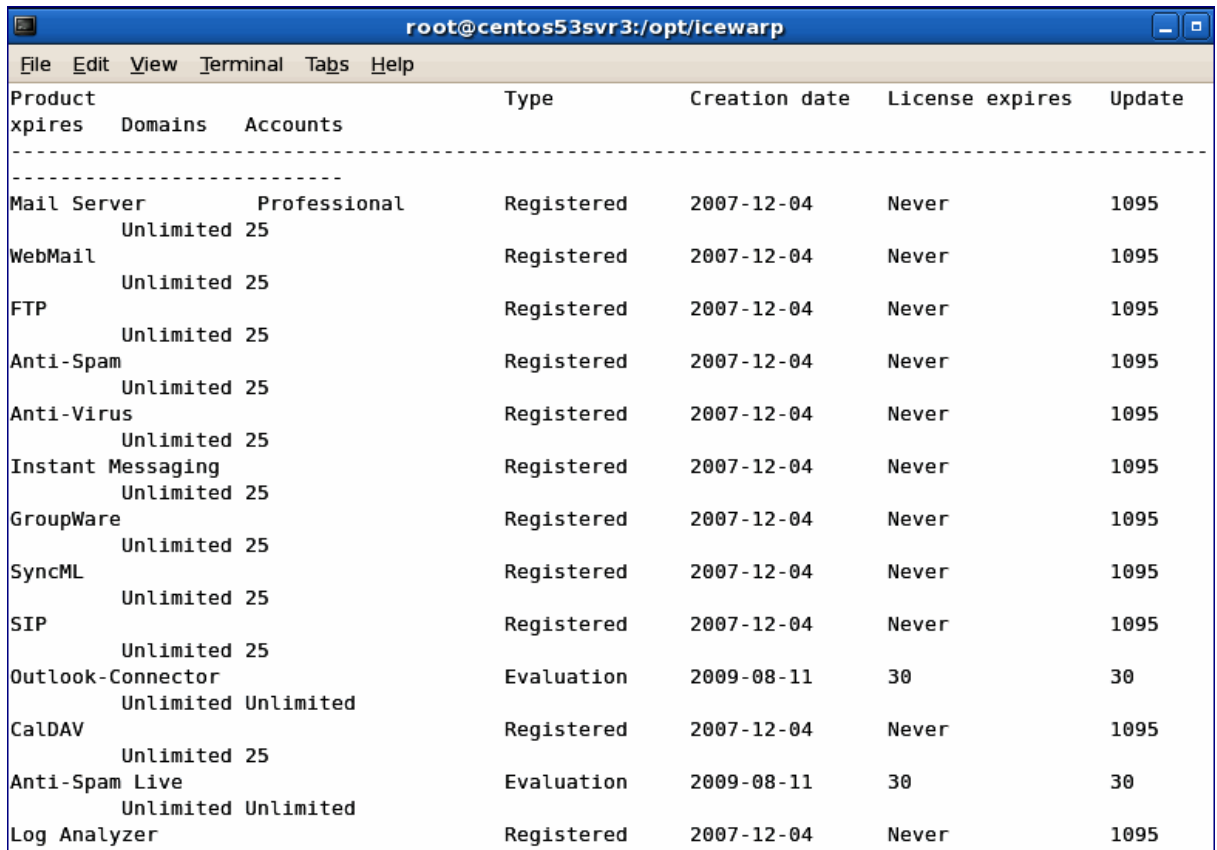
```
root@centos53svr3:/opt/icewarp/config
File Edit View Terminal Tabs Help
[root@centos53svr3 ~]# cd /opt/icewarp/config
[root@centos53svr3 config]# nano license.key
```

```
root@centos53svr3:/opt/icewarp/config
File Edit View Terminal Tabs Help
GNU nano 1.3.12 File: license.key

SVBMTcQe5lahkMF3hS8pr7s+FR/+pCbbeMmDvRribN6rkHZ0G03fws
P0fIi8pf0FN3Ro002AAfQ0IgiUw73ekCx9S0F6gdoibaraIfEz9QZi
KulUvgXxZXAEkmdfuepzgET/65EYvablxxcj81TBKwZaTRwG5E07U
8ZXact7FMFXsUGhsnQR62s5udBKVmNdNpkmp81HzPNs21jFzKGwTRm
Hz06e6q3G+Y3v9hJtaIRDQdpJS+uK0+dJzQm4Y0yi+wVJT1yxA6Ywz
bKuKeR0m5TqatYVVUdM1ia0hCrnAy2xGfoggpYvHaBxX4XQZD8P+7Xm
8j70y9VnxLkSnxppDd6dKkWS1SaTFpWmSk2FgBBpW8+03ja1RUGgZn
IEXcEDsKf05wo0ZiEPt6LLoP1LWorXVF0UK4wkbA5eB+vKEK3ZHh0L
wrsBugs8MGEHrmF/2Fo85x43h5xFHYF0bzdAWECT2fGf+Ln1x5VAs7
ibwBY2x21J9FT04SdNoki0KMVYLQ9FoZy4m8Ab6ncILaI7j3eiLkNZ
h0nIRTMaNXsvQH0ssvX5Y0XGVzjiK6iJ8IWUQSJgByx15k93STr+8z
HGSM6BACU48eUQMLTPzH51lbaA0o2aExRLYIRdfufZA6dlrg0QgPeT
835XBRT3KpDhsLCZiYw4jfoA+2AH5jpcTx1fS1ZCc6aWKHxN97vrjo
w4799+3iDmJZZokPrmZwFWJlt4bVMYGvAxPwWXM1g60P4MQHMqEGDv
Yjo8rLZPCHPAWDDUpef+Xd2RUvK2Wvjuc8Gi7LT9mor76np4WxLNXH
28G6Zct6wfG9f2ZU1Jez45+575tVjKJZSQ7UVav69xKWdkw5PQWeUV
dgcWx+V4z9Xcf0jUZKw3CPMiCbdbiUB0Fwz14ykk24dHdgVYwFNIzg
adg0IHQYk2L7GM6WJEwAR2XP7QSVY9N3NAldlkBrFJE0QV0s16anHS
0eHsuWh3LSrbxBhWpn2spiaxm7G7rk2CUws=
```

4. You may then review and verify your license using the `wizard.sh` [1] *Display License Information*.

```
root@centos53svr3:/opt/icewarp
File Edit View Terminal Tabs Help
**
** License operations
** -----
**
** You have the following options:
**
** [1] Display license information
** [2] Display license
** [3] Export license to file
** [4] Display reference key
** [5] Export reference key to file
** [6] Fetch license online
**
** [0] Return
** [Q] Exit
**
** Enter your choice: 1
```



Product	xpires	Domains	Accounts	Type	Creation date	License expires	Update
Mail Server			Professional	Registered	2007-12-04	Never	1095
	Unlimited	25					
WebMail				Registered	2007-12-04	Never	1095
	Unlimited	25					
FTP				Registered	2007-12-04	Never	1095
	Unlimited	25					
Anti-Spam				Registered	2007-12-04	Never	1095
	Unlimited	25					
Anti-Virus				Registered	2007-12-04	Never	1095
	Unlimited	25					
Instant Messaging				Registered	2007-12-04	Never	1095
	Unlimited	25					
GroupWare				Registered	2007-12-04	Never	1095
	Unlimited	25					
SyncML				Registered	2007-12-04	Never	1095
	Unlimited	25					
SIP				Registered	2007-12-04	Never	1095
	Unlimited	25					
Outlook-Connector				Evaluation	2009-08-11	30	30
	Unlimited	Unlimited					
CalDAV				Registered	2007-12-04	Never	1095
	Unlimited	25					
Anti-Spam Live				Evaluation	2009-08-11	30	30
	Unlimited	Unlimited					
Log Analyzer				Registered	2007-12-04	Never	1095

# Controlling IceWarp Server in Linux

## Starting server and/or services

```
[linux]$ ./icewarpd.sh --start
```

– starts "icewarpd" and automatically starts all services, except PHP, which is started when first HTTP request arrives.

```
[linux]$ ./icewarpd.sh --start control|gw|im|pop3|smtp|all
```

– starts the selected service or all services. If "icewarpd" is not already running, this command does not start it. Only the selected service is started.

If the control is started, it starts PHP on the first HTTP request.

## Stopping server and/or services

```
[linux]$ ./icewarpd.sh --stop
```

– stops all running services, stops "icewarpd" and also PHP. This is the command for complete server shutdown.

```
[linux]$ ./icewarpd.sh --stop control|gw|im|pop3|smtp|all
```

– stops selected service or all services. This command causes PHP stop together with control and does not stop "icewarpd".

## Service icewarpd functionality

When the "icewarpd daemon" is running, it:

- checks every 10 seconds whether all started services are running. If not, service is re-started.

## Commands table

Action \ Platform	RHEL 5	Other distributions
Start all services and icewarpd	[pc]\$ service icewarp start	[pc]\$ ./icewarpd.sh --start
Stop all services and icewarpd	[pc]\$ service icewarp stop	[pc]\$ ./icewarpd.sh --stop
Restart all services and icewarpd	[pc]\$ service icewarp restart	-
Start specific service	[pc]\$ ./icewarpd.sh --start x	[pc]\$ ./icewarpd.sh --start x
Stop specific service	[pc]\$ ./icewarpd.sh --stop x	[pc]\$ ./icewarpd.sh --stop x
Check specific service	[pc]\$ ./icewarpd.sh --check x	[pc]\$ ./icewarpd.sh --check x

Possible services are: control, gw, im, pop3, smtp, all.

# IceWarp Server Administration

## Windows Administration Console

- download and install the latest Remote Administration Console from IceWarp website <http://www.icewarp.com> (Download > Tools), to connect to IceWarp Server remotely

## Frontend administrative authorities of the Web (Web Admin).

- `http:// <Your_Server>: 32000/admin/`

## Command Line wizard.sh

- used for quick setup and easy tasks, scriptable for more complex tasks
- can create the initial account, generate unique SSL certificate, set up database connection, install license and manage IceWarp Server services
- `cd /opt/IceWarp`
- `./wizard.sh`

## Command Line tool.sh (direct API access)

- `cd /opt/IceWarp`
- `./tool.sh`

NOTE: The Remote Administration Console and Web Admin depend on working Control service. Here are two examples where you may lose access to the Control service and how tool.sh can be used to resolve the problem.

### Example 1

In case user accounts are stored in database and you modify the DB connection specifying an incorrect hostname, you lose access to WebAdmin and remote console, because users fail to authenticate with the accounts database.

Check `/opt/IceWarp/api/delphi/APIConst.pas` and find the constant that defines the connection string:

**`C_System_Storage_Accounts_ODBCConnString = $61 // ODBC Connection String`**

To view the current connection string, use the command:

**`./tool.sh display system C_System_Storage_Accounts_ODBCConnString`**

```
C_System_Storage_Accounts_ODBCConnString:icewarp_accounts;root;password@;localhost,3,2
```

If DB is not on localhost, but on `mysql.icewarpdemo.com`, you can change the connection string via command line such as:

**`./tool.sh modify system`**

**`C_System_Storage_Accounts_ODBCConnStringicewarp_accounts;root;password@;mysql.mydomain.com;3;2`**

(The above line is typed entirely on one line.)



**Example 2**

You forget password of an administrator account, so you cannot access Remote Administration Console or Web Administration. You need to create a new administrator account, replacing *newpassword* with the password of choice:

```
./tool.sh create account admin2@icewarpdemo.com u_password newpassword u_admin 1
```

## Installation of Aspell Dictionaries

IceWarp Server uses Aspell (version 0.60.6) as a spell checker. It requires dictionaries for version 0.6 (or higher).

You can download these dictionaries (free) from <http://aspell.net/>.

To install a dictionary, use the `./scripts/install_aspell_dictionary.sh` script. Use the dictionary file name as a command line parameter.

Example of the command for the Czech dictionary installation:

```
[linux]$ ./scripts/install_aspell_dictionary.sh /home/user/aspell6-cs-20040614-1.tar.bz2
```

After dictionary installation, this new dictionary will not be available in WebClient. To configure it, you have to add a record about this dictionary to the WebClient configuration file:

`./config/_webmail/spellchecker.xml`

The record format is as follows:

```
<aspell_dictionary_id>Name_in_WebMail</aspell_dictionary_id>
```

Example:

New IceWarp Server installation has in the `./config/_webmail/spellchecker.xml` file one record for implicit English dictionary that is included in the installation:

```
<en>English</en>
```

After installation of the Czech dictionary, it is necessary to add the following record:

```
<cs>Czech</cs>
```

Use similar records for other languages.

**NOTE:** The `./config/_webmail/spellchecker.xml` file is created after the first login to WebClient and after displaying of the dialog for spell checker setting. This dialog is accessible via the **Settings** menu item within the email composer window.

# IceWarp Server – Dynamic Library Dependencies



NOTE: You have to install 32-bit libraries on 64-bit system. You should check, whether appropriate packages with the **.i686** extensions are installed. In some cases, only 64-bit versions are installed by default.

NOTE: In the case more than one package is mentioned (within one cell), you may choose which one you want to use.

RHEL 5		RHEL 6	
Library	Package	Library	Package
libatk-1.0.so.0	atk.i386	libatk-1.0.so.0	atk.i686
libaudit.so.0	audit-libs.i386	libattr.so.1	libattr.i686
libcairo.so.2	cairo.i386	libaudit.so.1	audit-libs.i686
libcap.so.1	libcap.i386	libavahi-client.so.3	avahi-libs.i686
libcom_err.so.2	e2fsprogs-libs.i386	libavahi-common.so.3	avahi-libs.i686
libcrypto.so.6	openssl.i686	libavahi-glib.so.1	avahi-glib.i686
libcrypt.so.1	glibc.i686	libcairo.so.2	cairo.i686
libc.so.6	glibc.i686	libcap.so.2	libcap.i686
libdbus-1.so.3	dbus-libs.i386	libcom_err.so.2	libcom_err.i686
libdl.so.2	glibc.i686	libcrypto.so.10	openssl.i686
libexpat.so.0	expat.i386	libcrypt.so.1	glibc.i686
libfontconfig.so.1	fontconfig.i386	libc.so.6	glibc.i686
libfreetype.so.6	freetype.i386	libdbus-1.so.3	dbus-libs.i686
libgcc_s.so.1	libgcc.i386	libdl.so.2	glibc.i686
libgcrypt.so.11	libgcrypt.i386	libexpat.so.1	expat.i686
libgdk_pixbuf-2.0.so.0	gtk2.i386	libfontconfig.so.1	fontconfig.i686
libgdk-x11-2.0.so.0	gtk2.i386	libfreebl3.so	nss-softokn-freebl.i686
libgd.so.2	gd.i386	libfreetype.so.6	freetype.i686
libgnutls.so.13	gnutls.i386	libgcc_s.so.1	libgcc.i686
libgpg-error.so.0	libgpg-error.i386	libgcrypt.so.11	libgcrypt.i686
libgssapi_krb5.so.2	krb5-libs.i386	libgdk_pixbuf-2.0.so.0	gtk2.i686

libgtk-x11-2.0.so.0	gtk2.i386	libgdk-x11-2.0.so.0	gtk2.i686
libidn.so.11	libidn.i386	libgd.so.2	gd.i686
libk5crypto.so.3	krb5-libs.i386	libgio-2.0.so.0	glib2.i686
libkeyutils.so.1	keyutils-libs.i386	libglib-2.0.so.0	glib2.i686
libkrb5.so.3	krb5-libs.i386	libgmodule-2.0.so.0	glib2.i686
libkrb5support.so.0	krb5-libs.i386	libgnutls.so.26	gnutls.i686
liblber-2.3.so.0	openldap.i386	libgobject-2.0.so.0	glib2.i686
libldap-2.3.so.0	openldap.i386	libgpg-error.so.0	libgpg-error.i686
libm.so.6	glibc.i686	libgssapi_krb5.so.2	krb5-libs.i686
libmysqlclient.so.15	mysql.i386	libgthread-2.0.so.0	glib2.i686
libnsl.so.1	glibc.i686	libgtk-x11-2.0.so.0	gtk2.i686
libpam.so.0	pam.i386	libidn.so.11	libidn.i686
libpango-1.0.so.0	pango.i386	libjpeg.so.62	libjpeg.i686
libpangocairo-1.0.so.0	pango.i386	libk5crypto.so.3	krb5-libs.i686
libpangoft2-1.0.so.0	pango.i386	libkeyutils.so.1	keyutils-libs.i686
libpcre.so.0	pcre.i386	libkrb5.so.3	krb5-libs.i686
libpng12.so.0	libpng.i386	libkrb5support.so.0	krb5-libs.i686
libpthread.so.0	glibc.i686	liblber-2.4.so.2	openldap.i686
libresolv.so.2	glibc.i686	libldap-2.4.so.2	openldap.i686
librt.so.1	glibc.i686	libldap_r-2.4.so.2	openldap.i686
libsasl2.so.2	cyrus-sasl-lib.i386	libm.so.6	glibc.i686
libselinux.so.1	libselinux.i386	libmysqlclient.so.16	mysql-libs.i686
libsepol.so.1	libsepol.i386	libncursesw.so.5	ncurses-libs.i686
libssl.so.6	openssl.i686	libnsl.so.1	glibc.i686
libstdc++.so.6	libstdc++.i386	libnspr4.so	nspr.i686
libuuid.so.1	e2fsprogs-libs.i386	libnss3.so	nss.i686
libX11.so.6	libX11.i386	libnssutil3.so	nss-util.i686
libXau.so.6	libXau.i386	libpam.so.0	pam.i686
libXcursor.so.1	libXcursor.i386	libpango-1.0.so.0	pango.i686
libXdmp.so.6	libXdmp.i386	libpangocairo-1.0.so.0	pango.i686
libXext.so.6	libXext.i386	libpangoft2-1.0.so.0	pango.i686
libXfixes.so.3	libXfixes.i386	libpcre.so.0	pcre.i686
libXinerama.so.1	libXinerama.i386	libpixman-1.so.0	pixman.i686
libXi.so.6	libXi.i386	libplc4.so	nspr.i686
libxml2.so.2	libxml2.i386	libplds4.so	nspr.i686

libXrandr.so.2	libXrandr.i386	libpng12.so.0	libpng.i686
libXrender.so.1	libXrender.i386	libpthread.so.0	glibc.i686
libz.so.1	zlib.i386	libresolv.so.2	glibc.i686
libavahi-client.so.3	avahi.i386	librt.so.1	glibc.i686
libavahi-common.so.3	avahi.i386	libsasl2.so.2	cyrus-sasl-lib.i686
libavahi-glib.so.1	avahi-glib.i386	libselinux.so.1	libselinux.i686
libmeanwhile.so.1	meanwhile.i386	libsmime3.so	nss.i686
		libssl3.so	nss.i686
		libssl.so.10	openssl.i686
		libstdc++.so.6	libstdc++.i686
		libtasn1.so.3	libtasn1.i686
		libtinfo.so.5	ncurses-libs.i686
		libX11.so.6	libX11.i686
		libXau.so.6	libXau.i686
		libxcb.so.1	libxcb.i686
		libXcomposite.so.1	libXcomposite.i686
		libXcursor.so.1	libXcursor.i686
		libXdamage.so.1	libXdamage.i686
		libXext.so.6	libXext.i686
		libXfixes.so.3	libXfixes.i686
		libXinerama.so.1	libXinerama.i686
		libXi.so.6	libXi.i686
		libxml2.so.2	libxml2.i686
		libXpm.so.4	libXpm.i686
		libXrandr.so.2	libXrandr.i686
		libXrender.so.1	libXrender.i686
		libz.so.1	zlib.i686
		libmeanwhile.so.1	meanwhile.i686

	Debian 32 bit	Debian 64 bit
<b>Library</b>	<b>Package</b>	<b>Package</b>
libatk-1.0.so.0	libatk-1.0.so.0	ia32-libs-gtk
libattr.so.1	libattr1	ia32-libs
libavahi-client.so.3	libavahi-client3	ia32-libs

libavahi-common.so.3	libavahi-common3	ia32-libs
libavahi-glib.so.1	libavahi-glib1	provided by IceWarp Server
libcairo.so.2	libcairo2	ia32-libs-gtk
libcap.so.2	libcap2	ia32-libs
libcrypto.so.0.9.8	libssl0.9.8	ia32-libs
libcrypt.so.1	libc6-i686	libc6-i386
libc.so.6	libc6-i686	libc6-i386
libdbus-1.so.3	libdbus-1-3	ia32-libs
libdl.so.2	libc6-i686	libc6-i386
libexpat.so.1	libexpat1	ia32-libs
libfontconfig.so.1	libfontconfig1	ia32-libs
libfreetype.so.6	libfreetype6	ia32-libs
libgcc_s.so.1	libgcc1	ia32-libs
libgcrypt.so.11	libgcrypt11	ia32-libs
libgdk_pixbuf-2.0.so.0	libgtk2.0-0	ia32-libs-gtk
libgdk-x11-2.0.so.0	libgtk2.0-0	ia32-libs-gtk
libgd.so.2	libgd2-noxpm	libgd2-noxpm
libgio-2.0.so.0	libglib2.0-0	ia32-libs-gtk
libglib-2.0.so.0	libglib2.0-0	ia32-libs-gtk
libgmodule-2.0.so.0	libglib2.0-0	ia32-libs-gtk
libgnutls.so.26	libgnutls26	ia32-libs
libgobject-2.0.so.0	libglib2.0-0	ia32-libs-gtk
libgpg-error.so.0	libgpg-error0	ia32-libs
libgthread-2.0.so.0	libglib2.0-0	ia32-libs-gtk
libgtk-x11-2.0.so.0	libgtk2.0-0	ia32-libs-gtk
libidn.so.11	libidn11	ia32-libs
libjpeg.so.62	libjpeg62	ia32-libs
liblber-2.4.so.2	libldap-2.4-2	ia32-libs
libldap-2.4.so.2	libldap-2.4-2	ia32-libs
libldap_r-2.4.so.2	libldap-2.4-2	ia32-libs
libm.so.6	libc6-i686	lic6-i386
libmysqlclient.so.16	libmysqlclient16	libmysqlclient16
libnsl.so.1	libc6-i686	lic6-i386
libpam.so.0	libpam0g	ia32-libs
libpango-1.0.so.0	libpango1.0-0	ia32-libs-gtk

libpangocairo-1.0.so.0	libpango1.0-0	ia32-libs-gtk
libpangoft2-1.0.so.0	libpango1.0-0	ia32-libs-gtk
libpcre.so.3	libpcre3	ia32-libs-gtk
libpixman-1.so.0	libpixman-1-0	ia32-libs-gtk
libpng12.so.0	libpng12-0	ia32-libs
libpthread.so.0	libc6-i686	libc6-i386
libresolv.so.2	libc6-i686	libc6-i386
librt.so.1	libc6-i686	libc6-i386
libsasl2.so.2	libsasl2-2	ia32-libs
libselinux.so.1	libselinux1	ia32-libs
libssl.so.0.9.8	libssl0.9.8	ia32-libs
libstdc++.so.6	libstdc++6	ia32-libs
libtasn1.so.3	libtasn1-3	ia32-libs
libX11.so.6	libx11-6	ia32-libs
libXau.so.6	libxau6	ia32-libs
libxcb-render.so.0	libxcb-render0	ia32-libs
libxcb-render-util.so.0	libxcb-render-util0	ia32-libs
libxcb.so.1	libxcb1	ia32-libs
libXcomposite.so.1	libxcomposite1	ia32-libs
libXcursor.so.1	libxcursor1	ia32-libs
libXdamage.so.1	libxdamage1	ia32-libs
libXdmcp.so.6	libxdmcp6	ia32-libs
libXext.so.6	libxext6	ia32-libs
libXfixes.so.3	libxfixes3	ia32-libs
libXinerama.so.1	libxinerama1	ia32-libs
libXi.so.6	libxi6	ia32-libs
libxml2.so.2	libxml2	ia32-libs
libXrandr.so.2	libxrandr2	ia32-libs
libXrender.so.1	libxrender1	ia32-libs
libz.so.1	zlib1g	ia32-libs
libmeanwhile.so.1	libmeanwhile1	provided by IceWarp Server

## Adjusting PHP

There are differences between Linux and Windows versions in adjusting PHP. The **webserver.dat** file includes some PHP directives which are not propagated into the PHP start script in Linux.

PHP is started from the **phpd.sh** script which is configured as the default handler for PHP in IceWarp Server.

Bundled PHP FastCGI manager is used. The **phpd.sh** script expects four parameters. Control passes these variables to **phpd.sh**. They are taken from these **webserver.dat** variables:

- `webappmaxthreads = fcgi_threadpool`, this gives the number of PHP threads, that should run. When *fcgi\_threadpool* is not specified, global thread pool size is used.
- `bindip = fcgi_bindip`, the IP on which PHPs listen for requests, typically localhost.
- `maxround = fcgi_maxrounds`, the number of requests, after which PHP process is respawned. This prevents memory exhaustion caused by possible leaks.
- `restart500 = fcgi_restart500`, the number of 500 responses, after which PHP process is respawned.

It performs safety checks:

- if **WEBAPPMAXTHREADS** is not set, then **PHP\_FCGI\_CHILDREN** is set to 15,
- if **WEBAPPMAXTHREADS** is not a number, then **PHP\_FCGI\_CHILDREN** is set to 15.

How IceWarp Server determines **WEBAPPMAXTHREADS**:

- If **webserver.dat** includes the **FastCGIThreadPool** variable with value greater than or equal to zero, then it is passed to configured FastCGI (default is **phpd.sh**) as **WEBAPPMAXTHREADS**.
- If the above condition is not met, then API variable of **C\_WebService\_AppMaxThreads** is passed to configured FastCGI (default is **phpd.sh**) as **WEBAPPMAXTHREADS**.

PHP logs in IceWarp/log directory:

- **phpstartup.log** – the output of PHP start command. If PHP does not start at all, often because of missing dependency, the reason can be found here.
- **php-fpm.log** – the log of fastCGI pool manager, default error level is warning. You can find reports about PHP processes respawning here.
- **phpslow.log** – if PHP thread is running for more than 2 minutes, current thread backtrace is dumped here. This is good entry point for examining, why PHP things (e. g. WebClient) are slow.



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# Running CentOS with Newer MySQL Versions (5.5.x and Later)

IceWarp Server (especially WebClient) was optimized to use the InnoDB engine more efficiently (mostly the use of MySQL engine for WebClient PDO cache). This engine is improved in every MySQL release. Servers should run V5.5.x instead of V5.1.x which is included in repositories.

Example (for version 5.5.23 and Czech environment – mirror)

**Default way (from repo):**

```
yum install mysql mysql-server mysql-libs
```

**Up-to-date way (rpm from dev.mysql.com, example for 5.5.23):**

Uninstall old (if present):

```
yum remove mysql mysql-server mysql-libs
```

Install new:

Server:

```
wget http://dev.mysql.com/get/Downloads/MySQL-5.5/MySQL-server-5.5.23-1.el6.i686.rpm/from/ftp://ftp.fi.muni.cz/pub/mysql/
```

```
rpm -iv MySQL-server-5.5.23-1.el6.x86_64.rpm
```

Connector libraries:

```
wget http://dev.mysql.com/get/Downloads/MySQL-5.5/MySQL-shared-5.5.23-1.el6.i686.rpm/from/ftp://ftp.fi.muni.cz/pub/mysql/
```

```
rpm -iv MySQL-shared-5.5.23-1.el6.x86_64.rpm
```

MySQL client:

```
wget http://dev.mysql.com/get/Downloads/MySQL-5.5/MySQL-client-5.5.23-1.el6.i686.rpm/from/ftp://ftp.fi.muni.cz/pub/mysql/
```

```
rpm -iv MySQL-client-5.5.23-1.el6.i686.rpm
```

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## How to Uninstall

If you want to uninstall IceWarp Server, use the **uninstall.sh** file, that is placed in the **<install\_dir>/** folder.