IceWarp Unified Communications

Installation and Control in Linux

Version 10.4

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Contents

CHAPTER 1

IceWarp Server Installation and Control in Linux

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

In This Chapter

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

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.

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 W***ebAdmin***.

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:

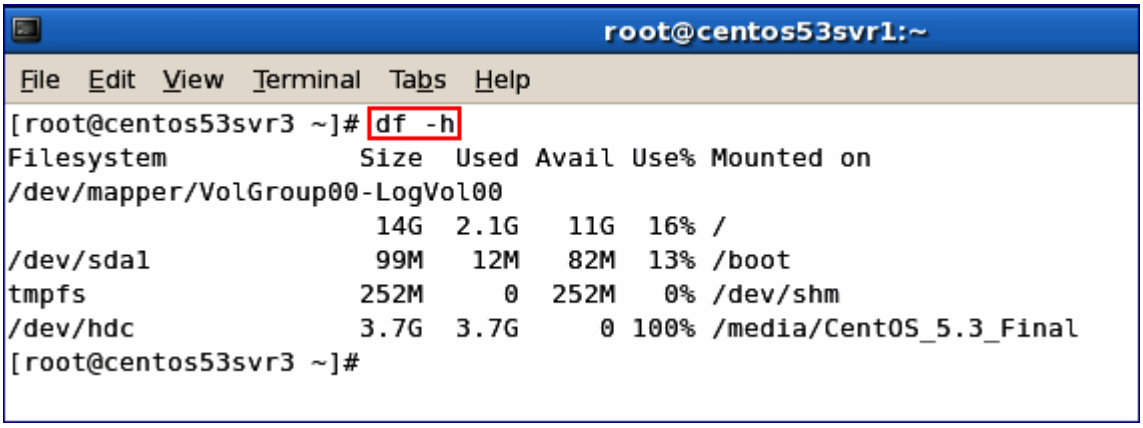
- WebClient: http://localhost:32000/webmail
- WebAdmin: http://localhost:32000/admin
- RPC: http://localhost:32000/RPC/

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.

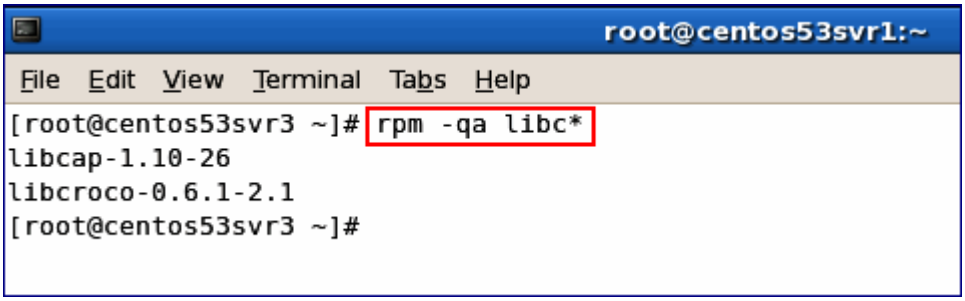
Installation Step-by-Step on Red Hat Enterprise Linux 5

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

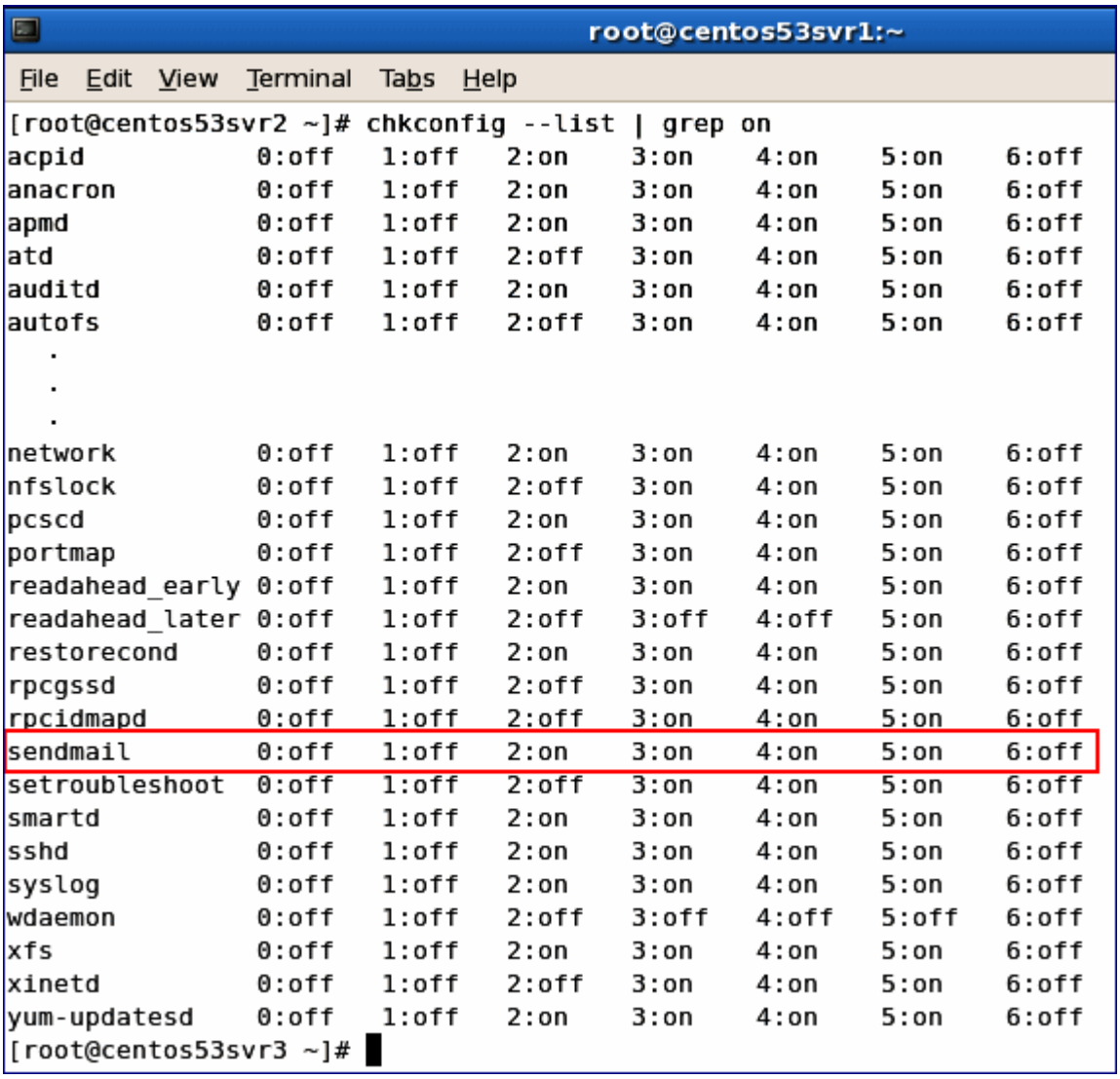
1. Check available disk space in volumes using ***df -h***.



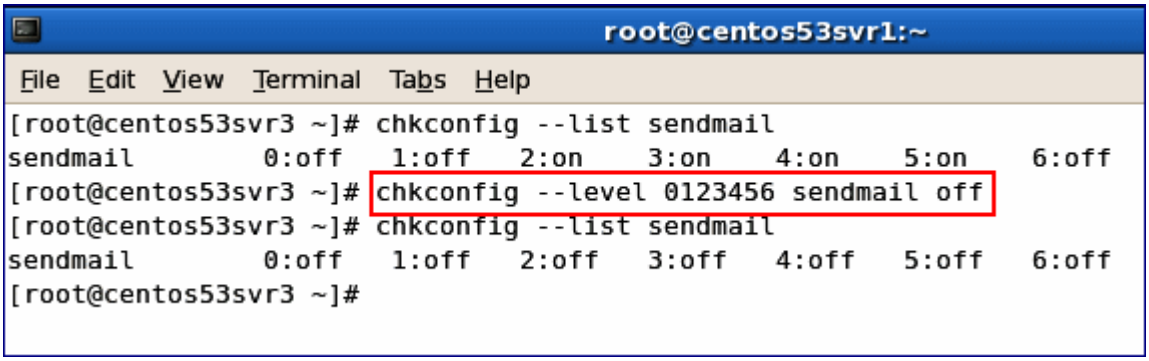
2. Verify that the following packages are installed using ***rpm -qa***.



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



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



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

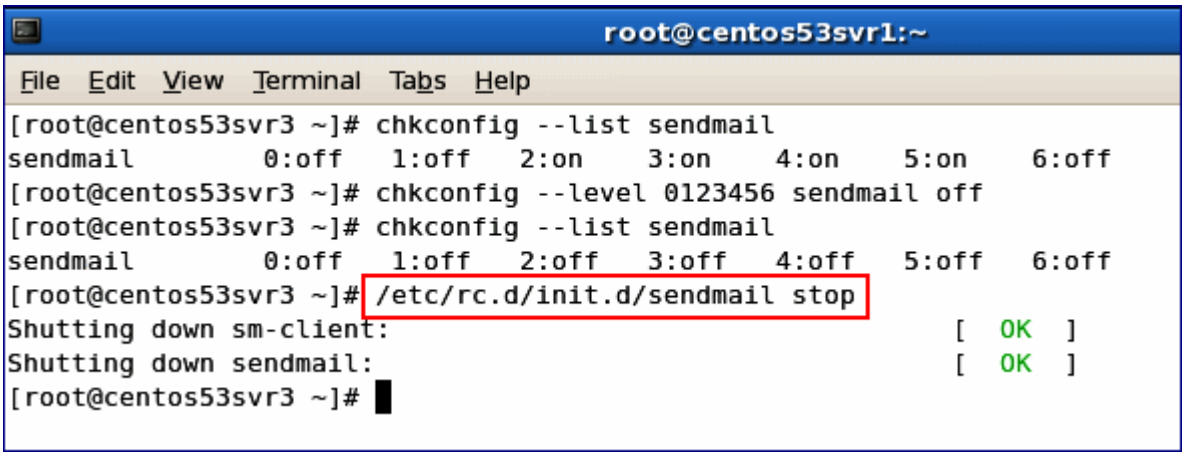
/etc/init.d/exim4 stop

For Centos 6.2:

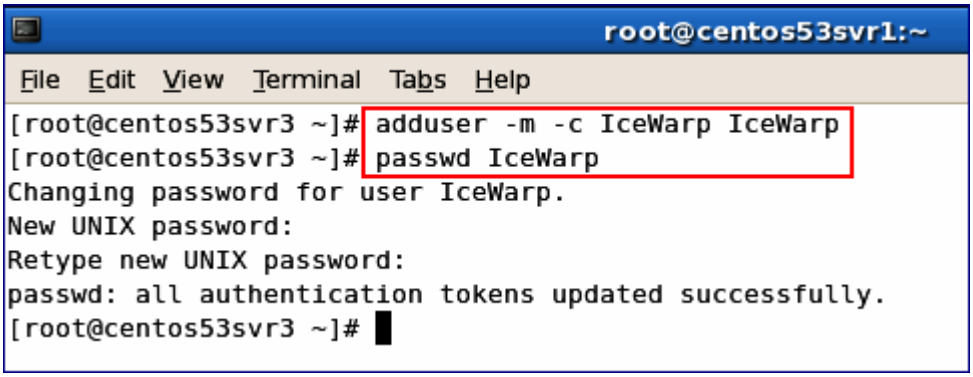
ckconfig --level 0123456 postfix off

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

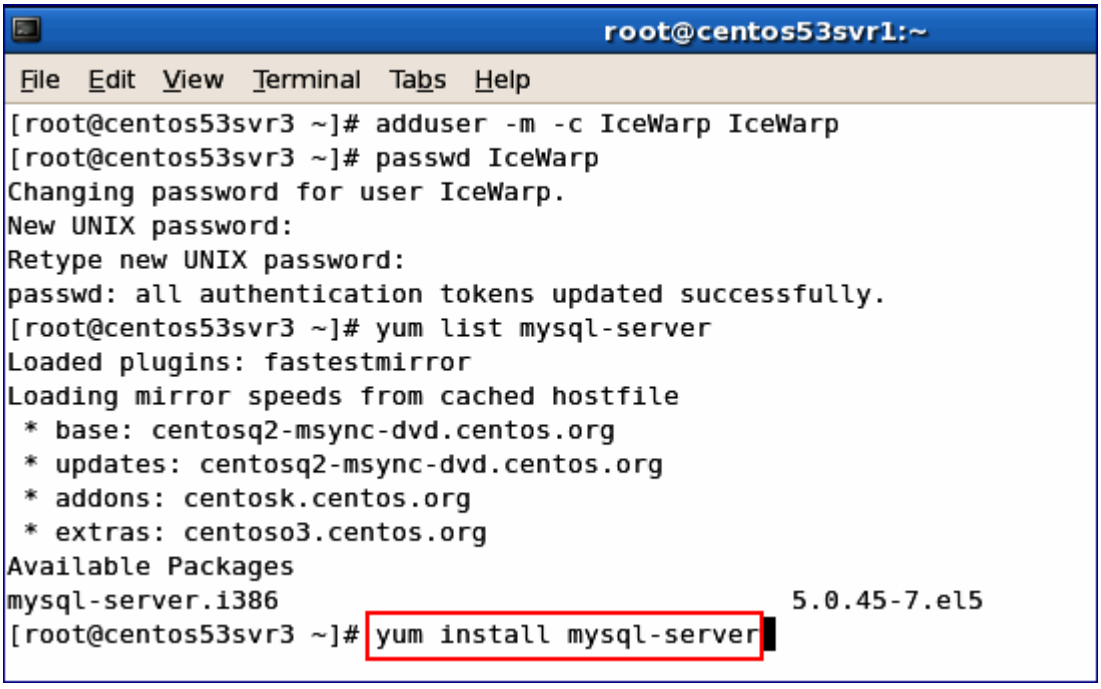
5. Stop clashing services, ie. Sendmail using ***/etc/rc.d/init.d/sendmail stop***.

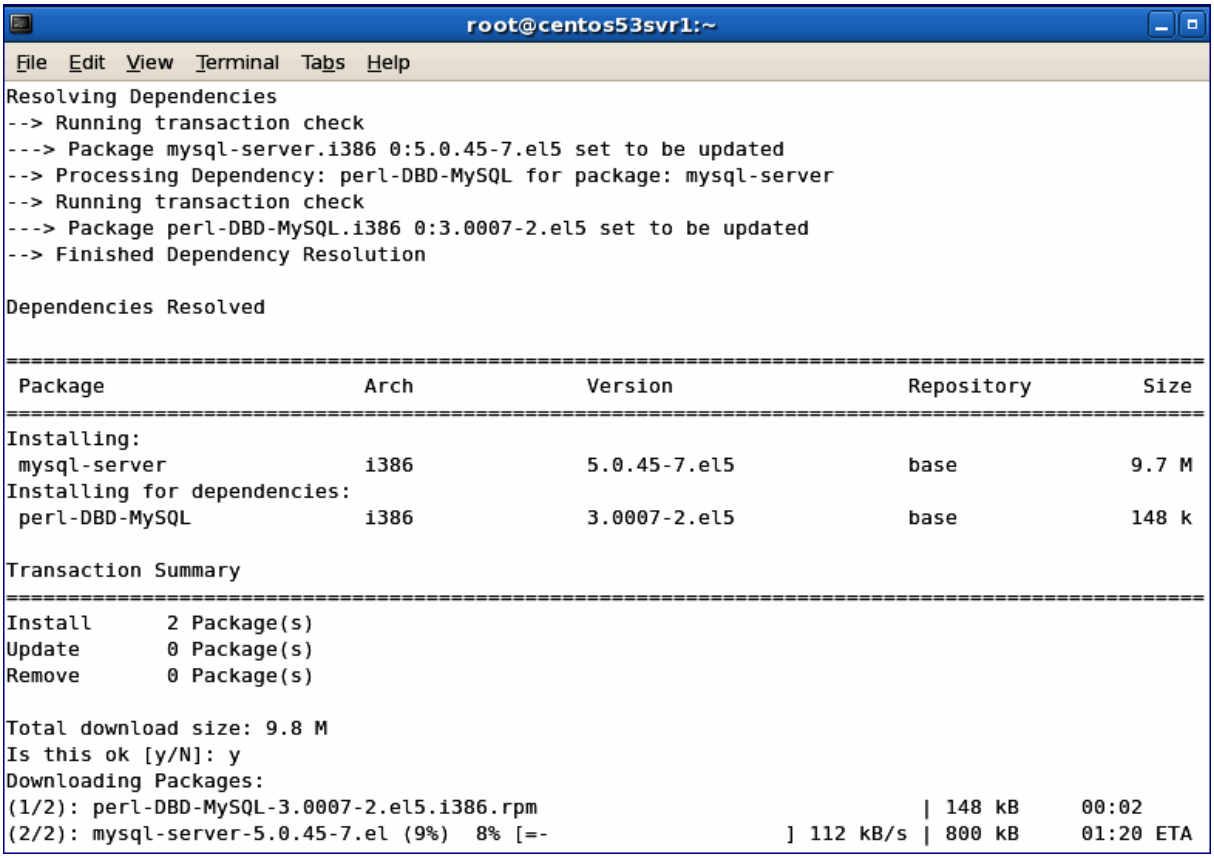


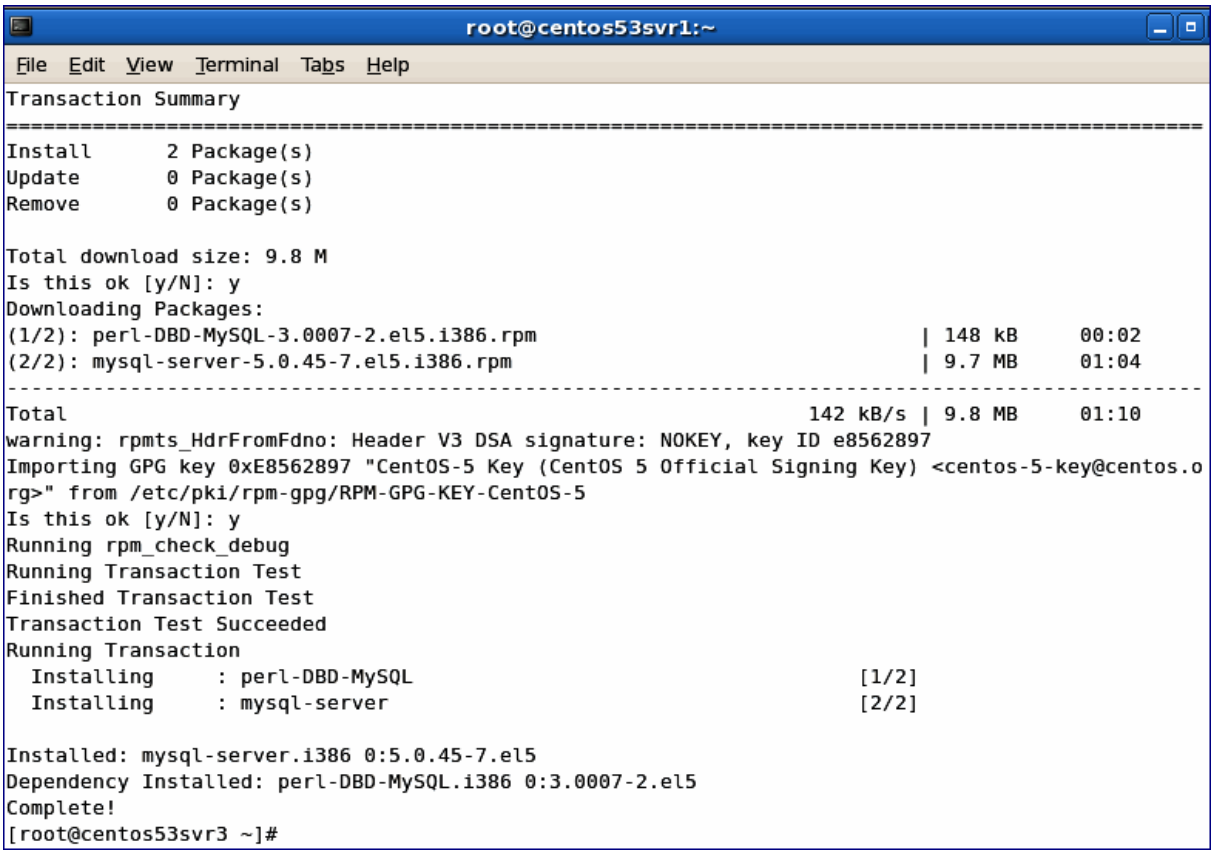
6. Optionally, create a user for IceWarp Server installation (both username and password are case sensitive).



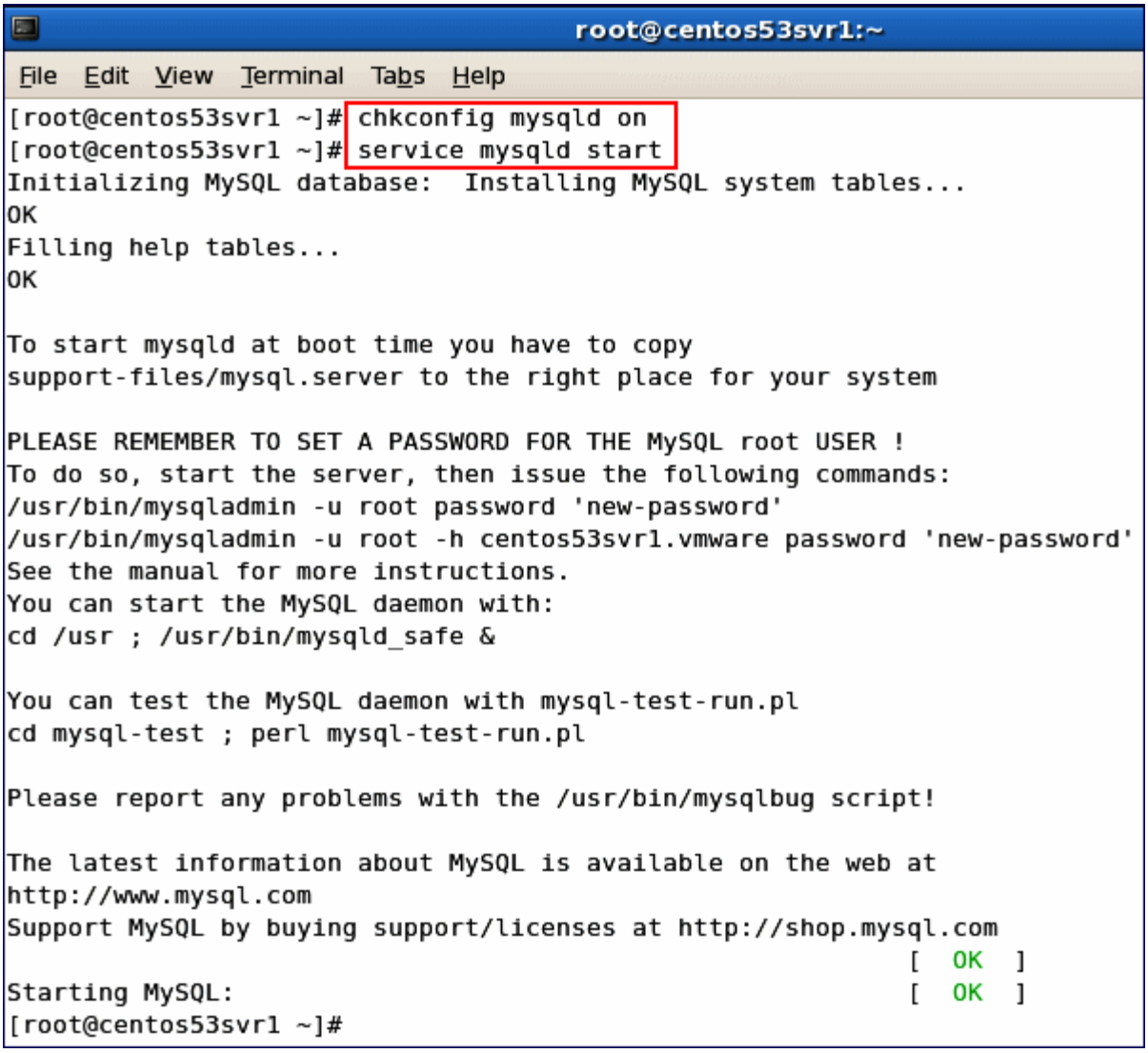
7. If not already installed, install mySQL.



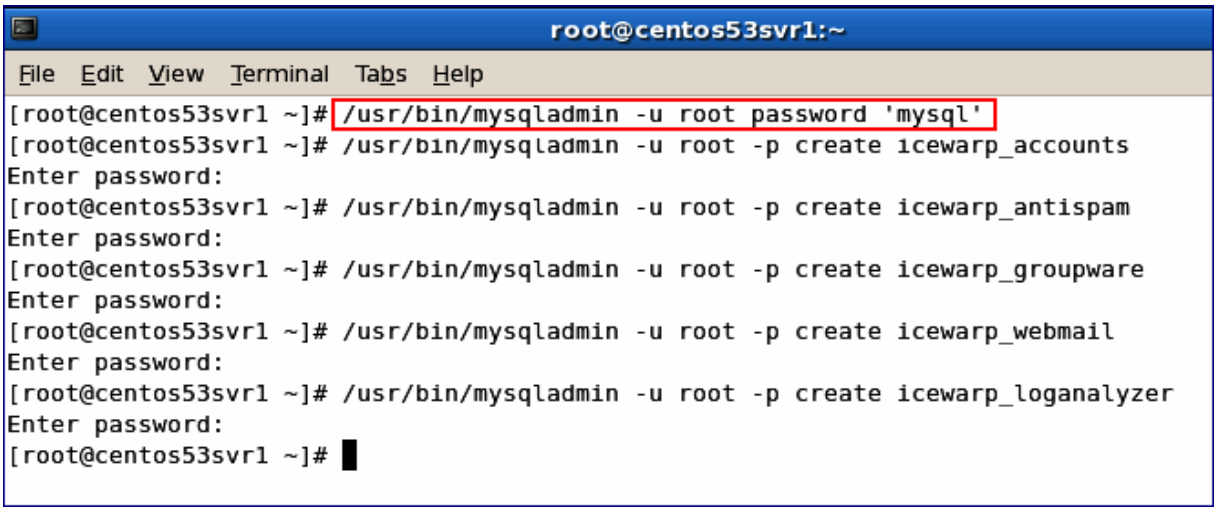



root@centos53svr1:~
File Edit View Terminal Tabs Help
Transaction Summary
Install 2 Package(s)
Update 0 Package(s)
Remove 0 Package(s)
Total download size: 9.8 M
Is this ok [y/N]: y
Downloading Packages:
(1/2): perl-DBD-MySQL-3.0007-2.el5.i386.rpm | 148 kB 00:02
(2/2): mysql-server-5.0.45-7.el5.i386.rpm | 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 ~]#

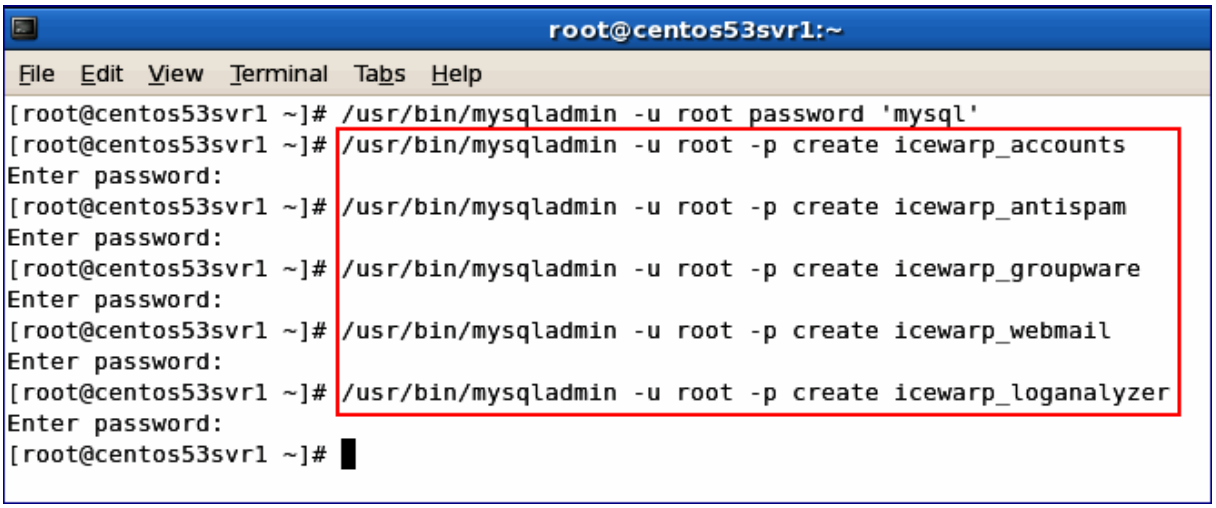
8. Set MySQL to **Auto-Start** using ***chkconfig mysqld on*** and then start the service immediately using ***service mysqld start***.



9. Set MySQL root password.



10. Create databases for IceWarp Server in MySQL.



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***

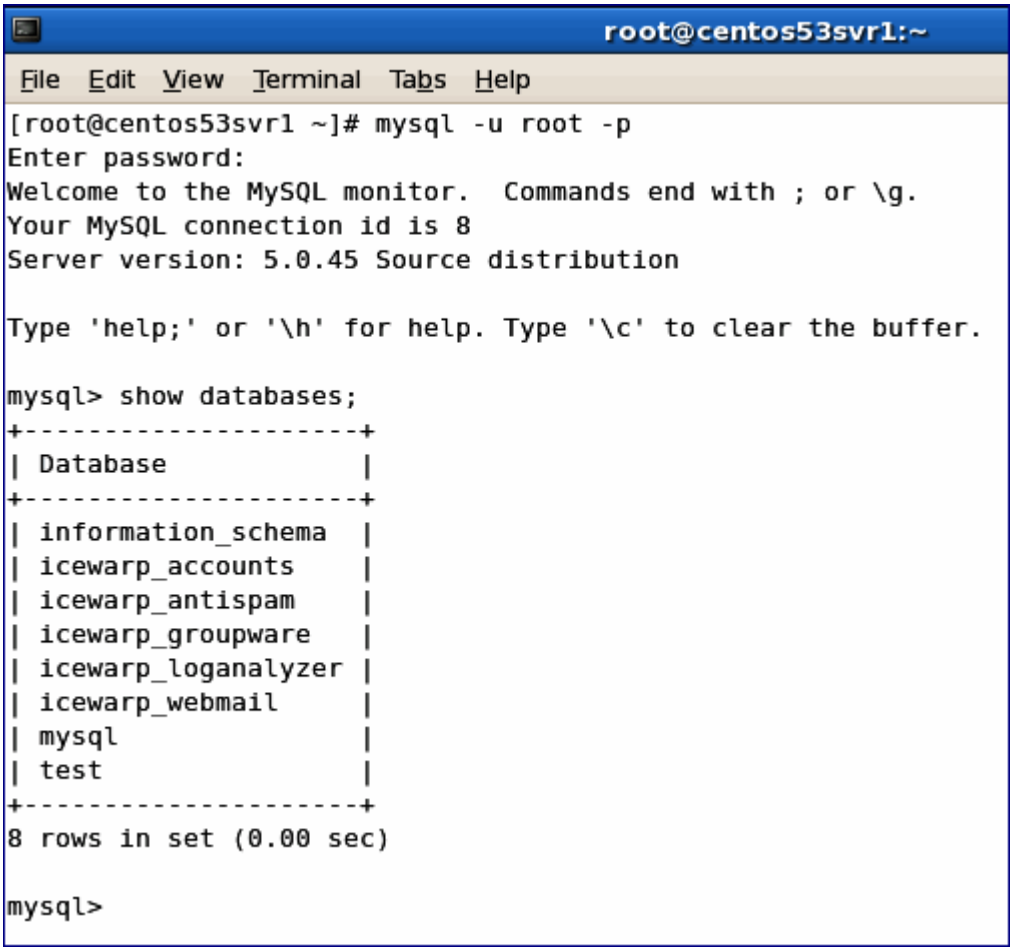
Follow this link to verify your collation set for proper MySQL sorting:

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:***

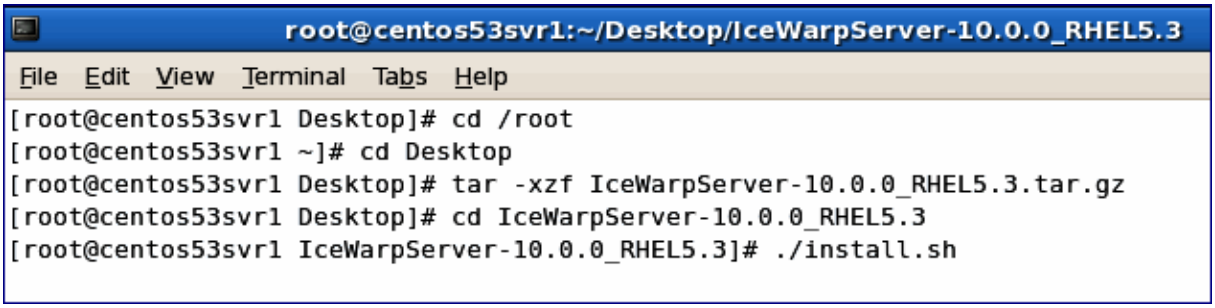
default-storage-engine=INNODB

11. Verify tables created in MySQL.



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.



13. Dependencies Check

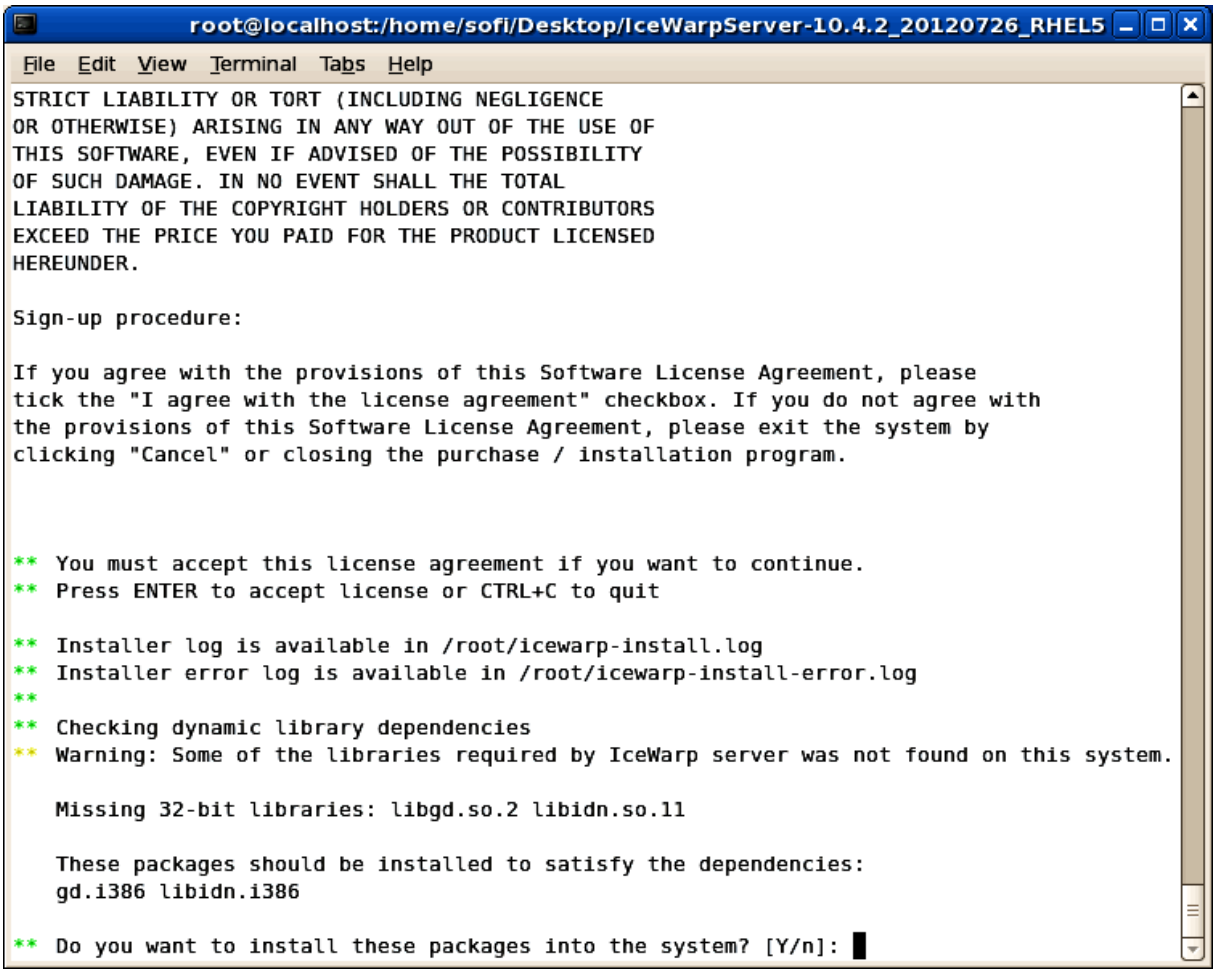
Dynamic library dependencies are now checked by the installer. It checks dependencies of all binaries included in IceWarp Server, i.e. IceWarp Server itself, embedded LDAP Server and all Purple plugins. When setup detects any librarie(s) are missing, it prints them out together with information, which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

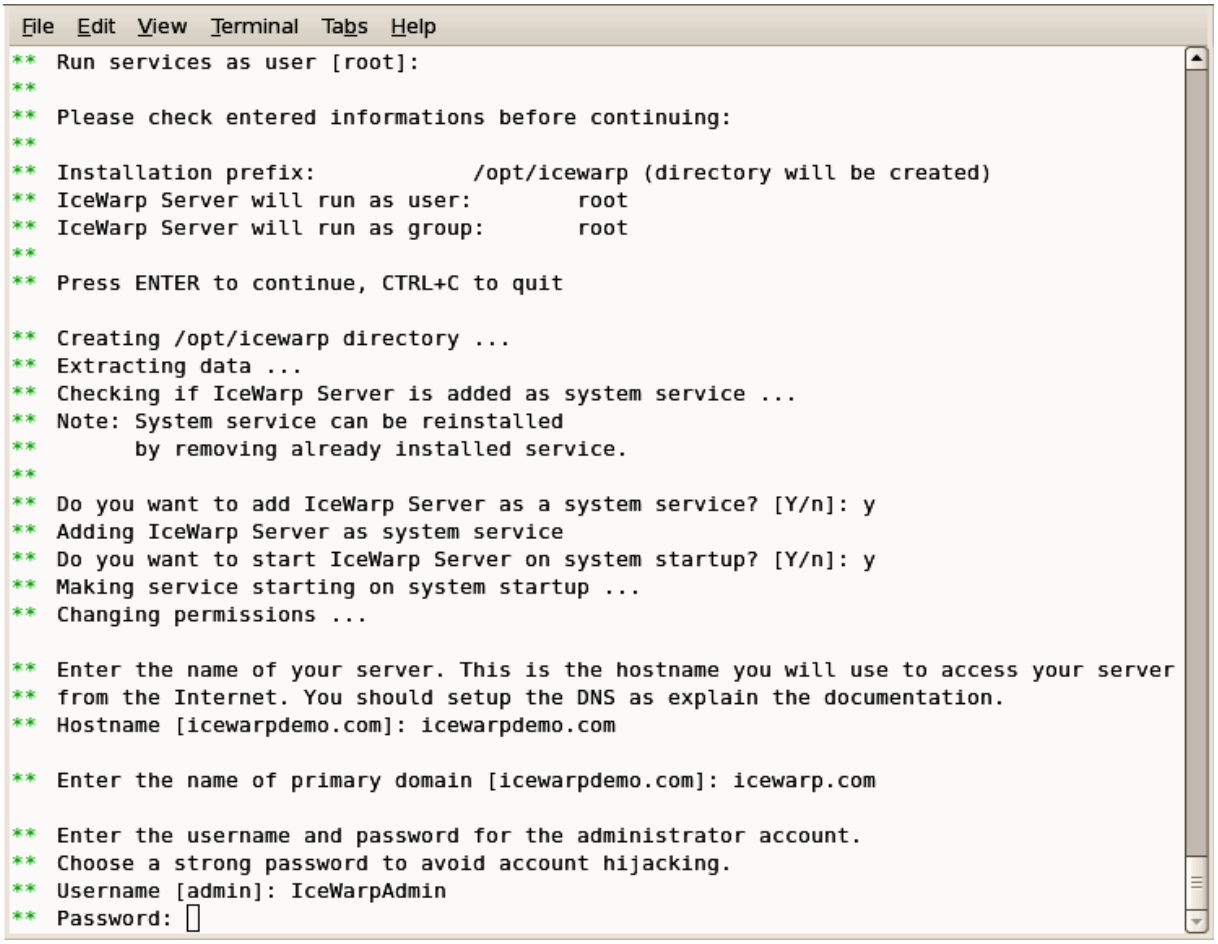
You can also reject installation of detected dependencies and setup will continue. However, some binaries coming with IceWarp Server will not execute until you install the libraries manually.

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.



14. Administrator Account:



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.

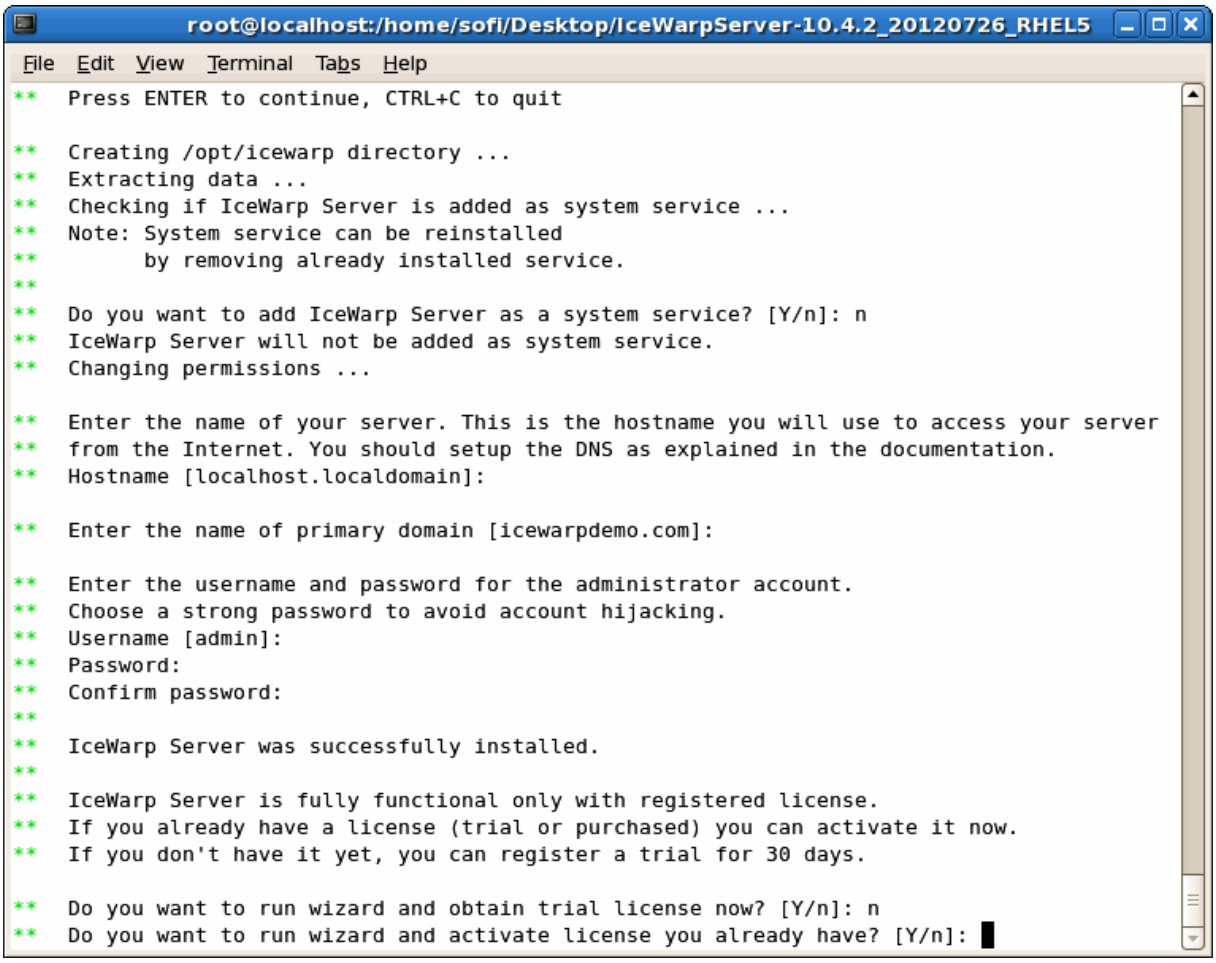
Administrator account: Username and password. Consider password policy – it is in effect. In case of any error, a user can retry or cancel the "wizard". Then they can configure the server manually using **wizard.sh** or other method.

15. License

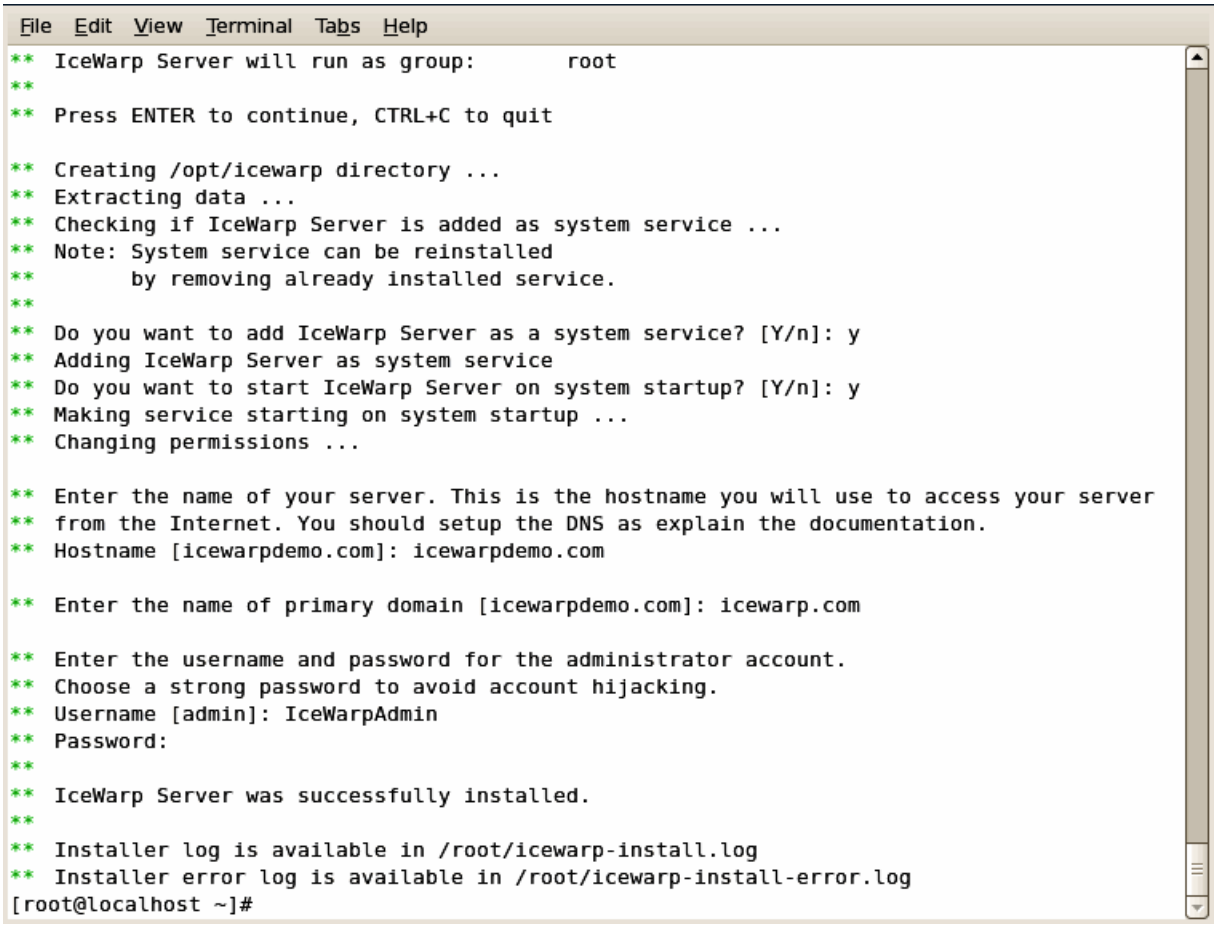
IceWarp Server needs to have registered license to be fully functional. This can be purchased license or a trial one. After installation, setup will ask whether you want to register a trial license or activate a full one that you already have (purchased or a trial obtained from web). In this case, you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

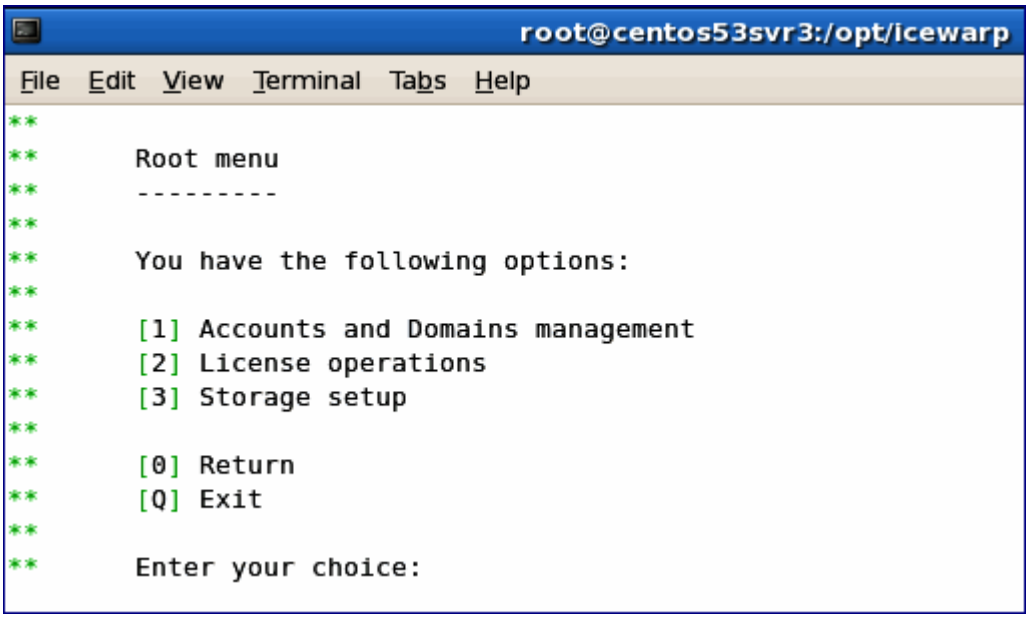


16. Installation is completed now:

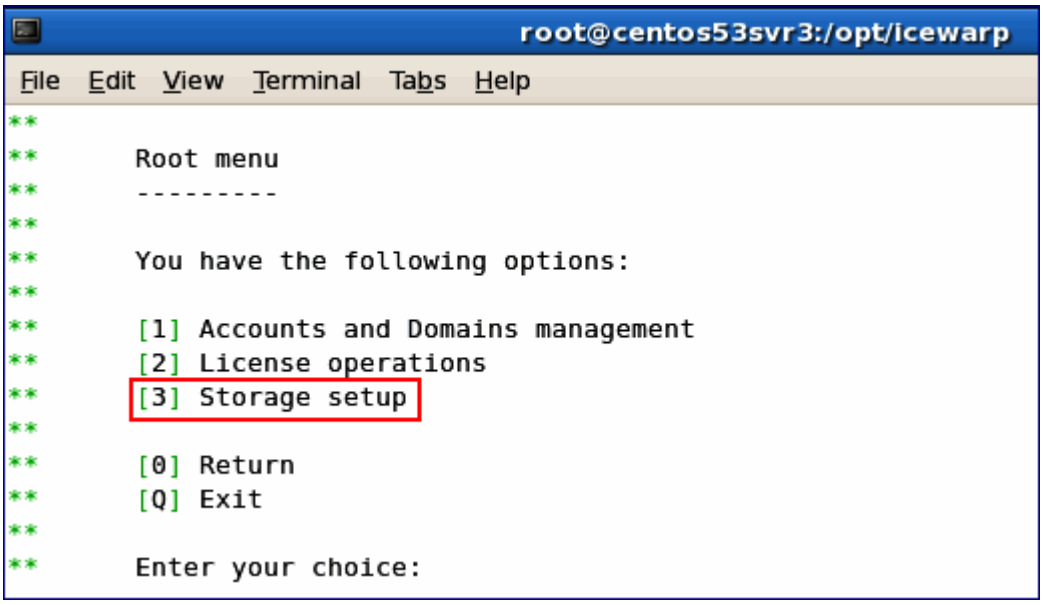


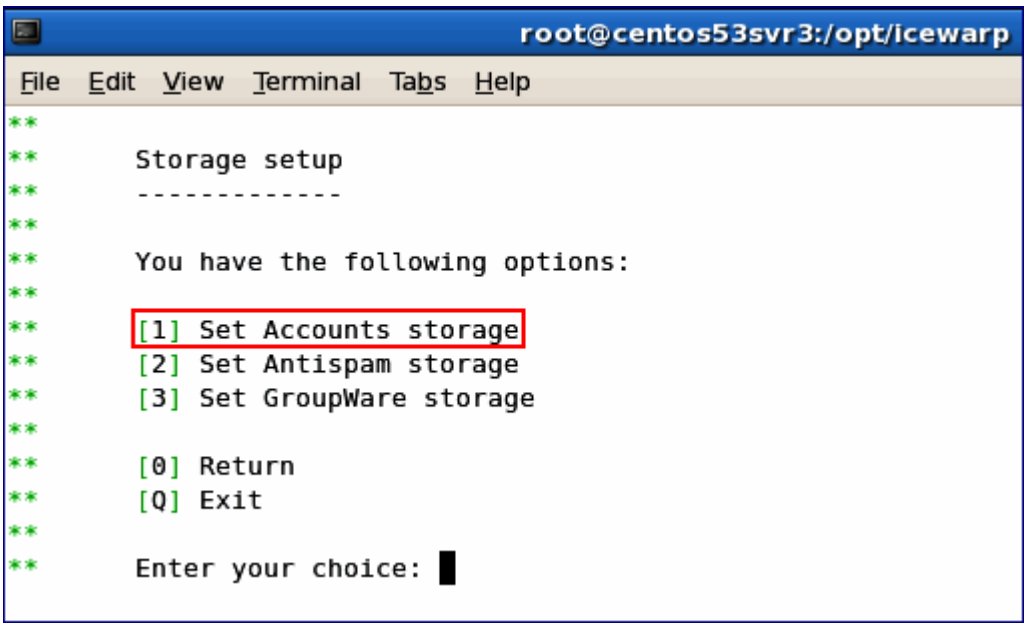
17. Run the IceWarp Wizard immediately after installation or at a later stage by executing ***./wizard.sh from the /install_volume/icewarp ie. /opt/icewarp.***

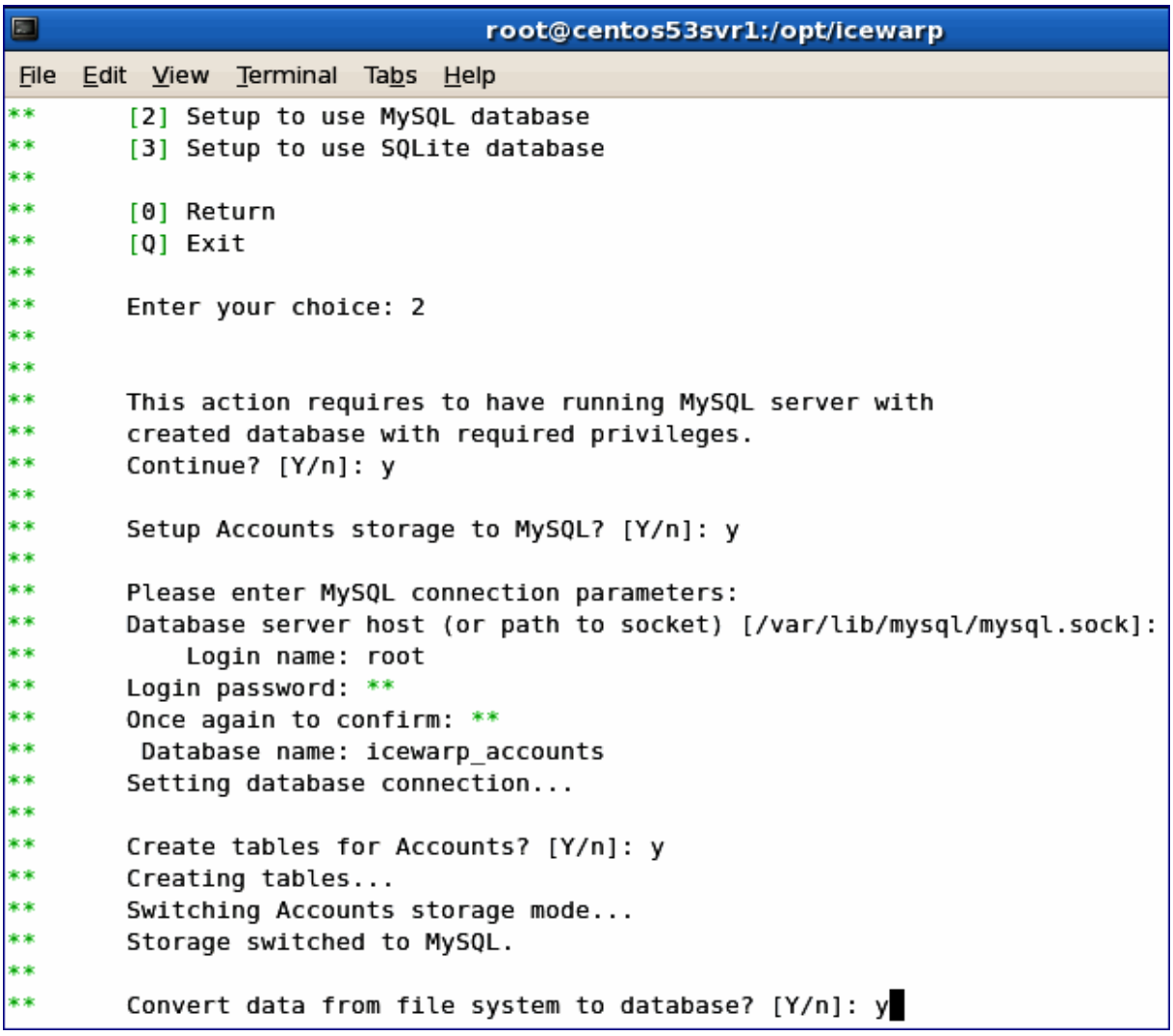
NOTE: If you want to change a groupware storage, the GW service has to be started first.



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




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:

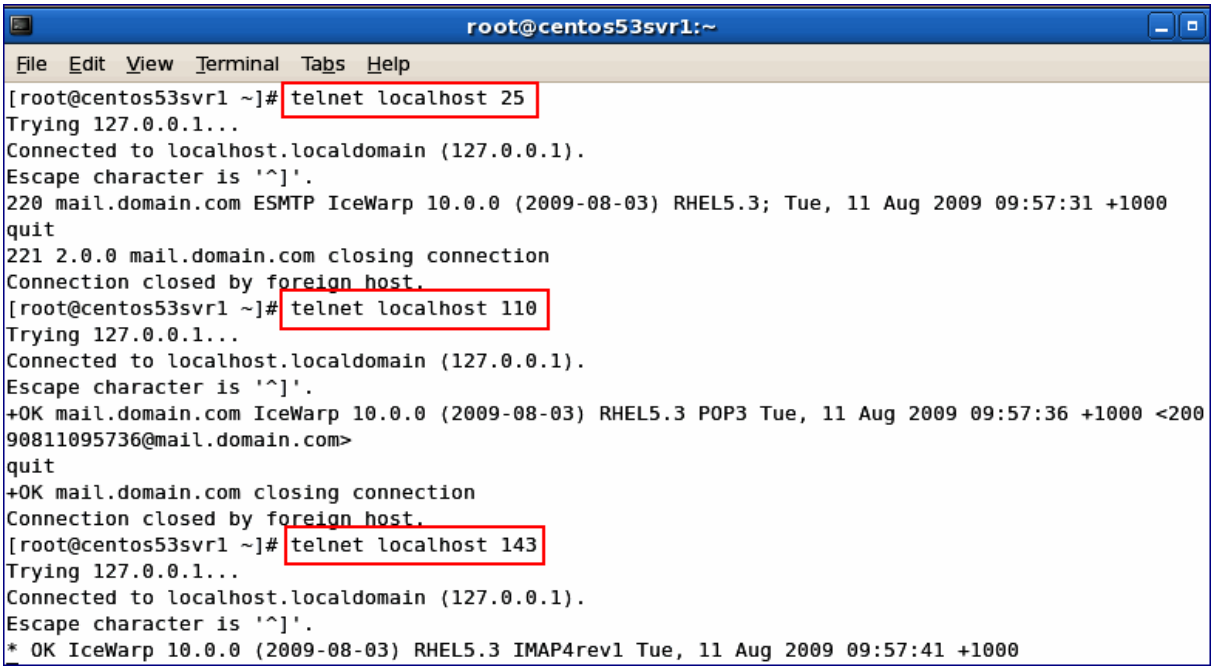


19. IceWarp Server installation done!

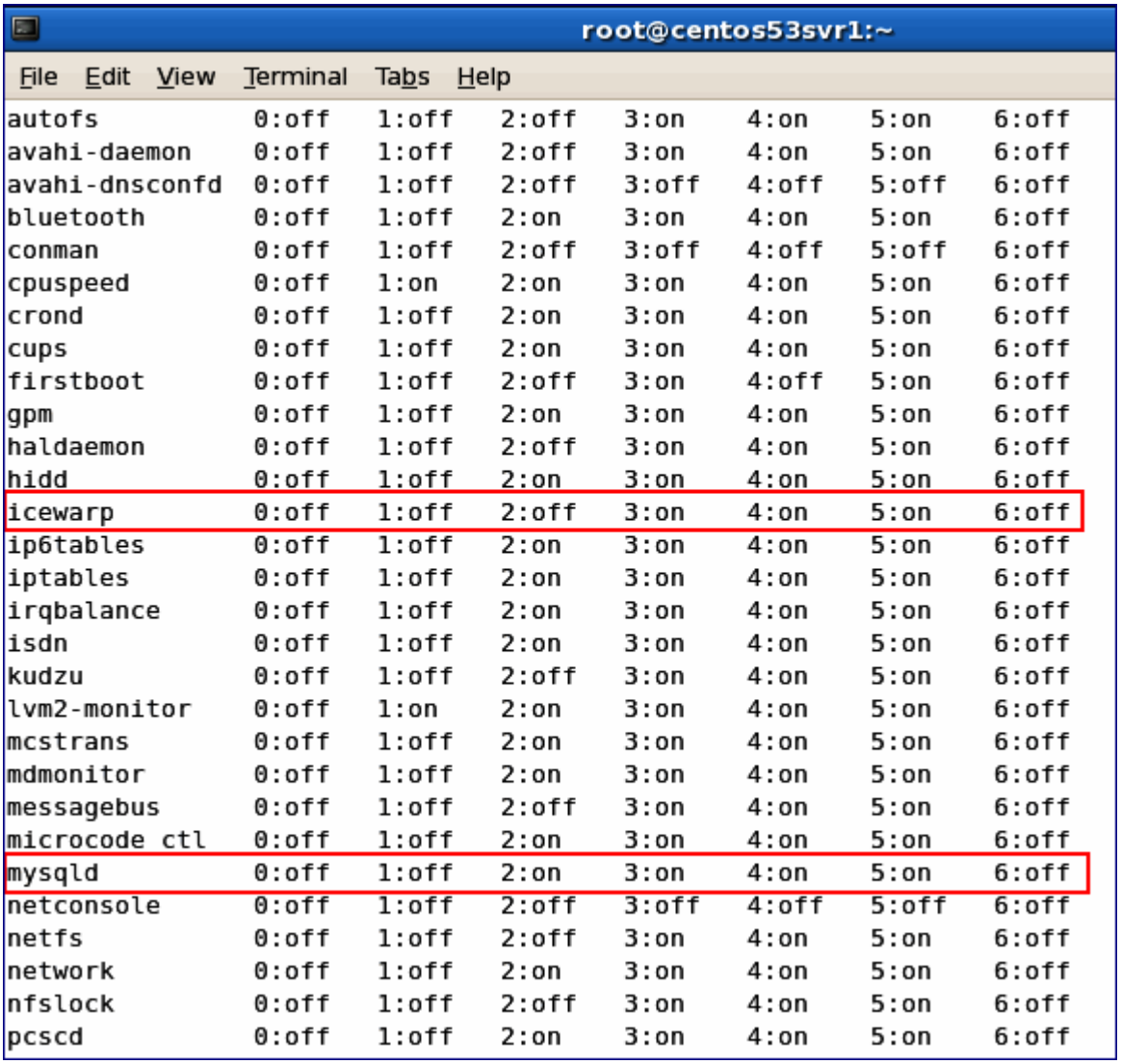
    Logs are available at ***/root/icewarp-install.log*** & ***/root/icewarp-install-error.log***.

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

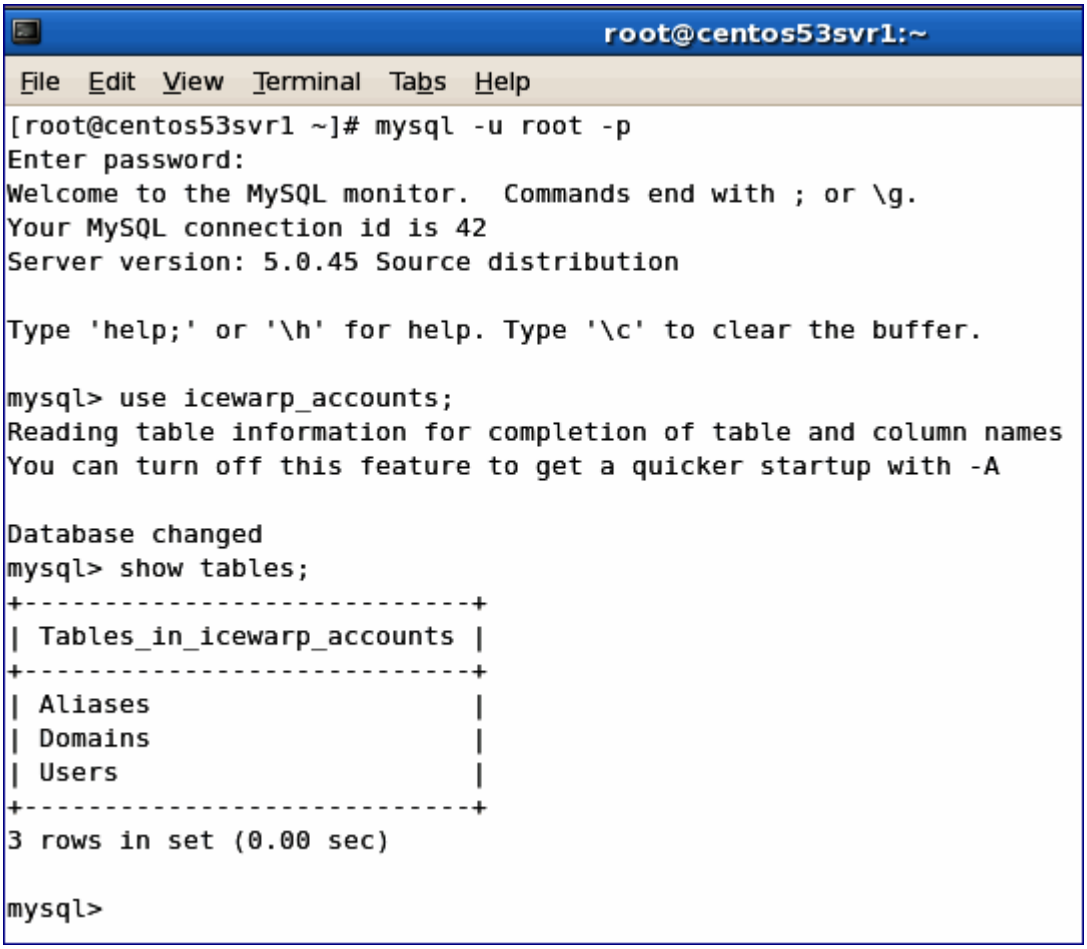
20. Next, verify that primary IceWarp Server services are operating properly.

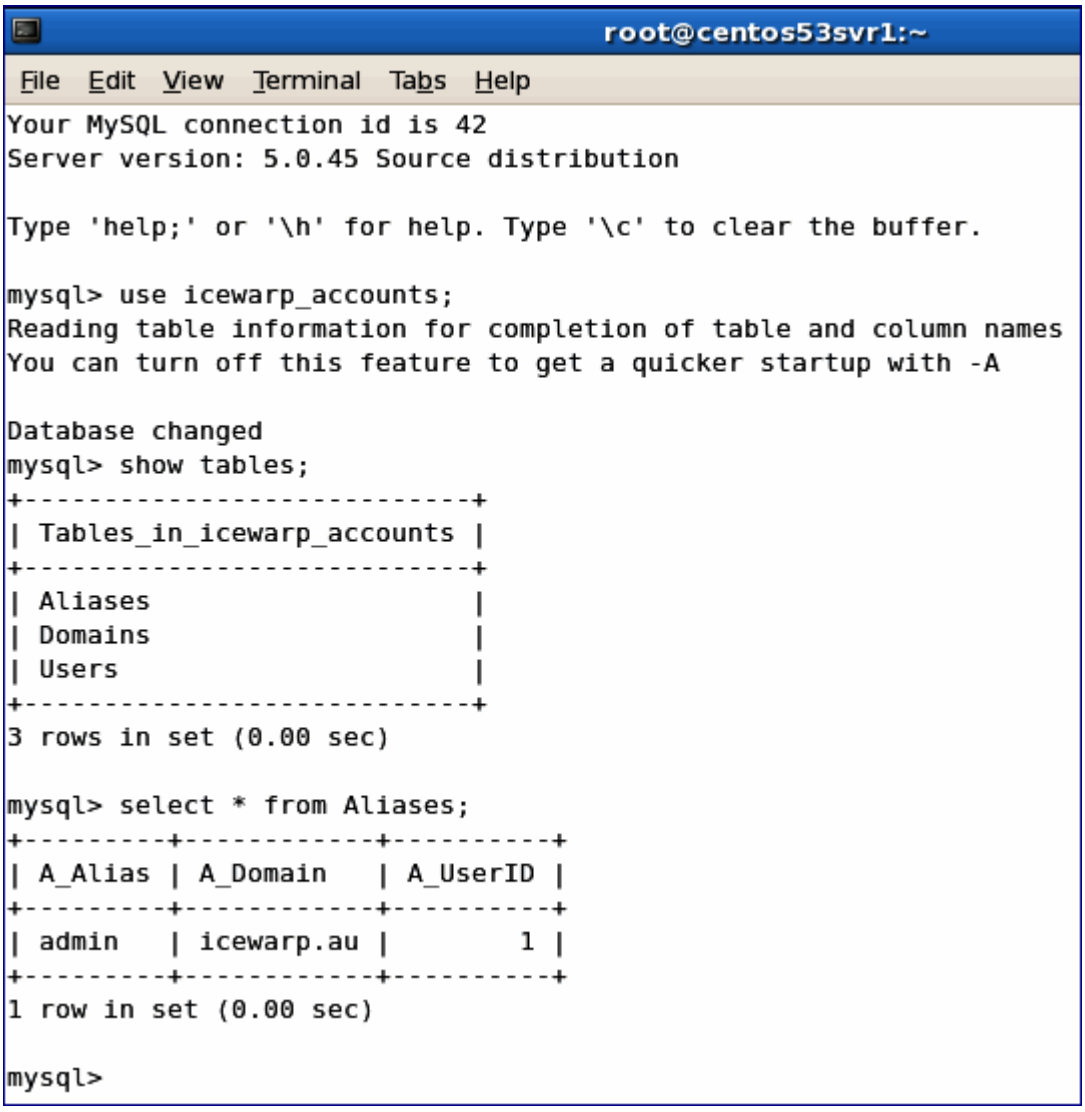


21. Check services startup using ***chkconfig --list | grep on***.

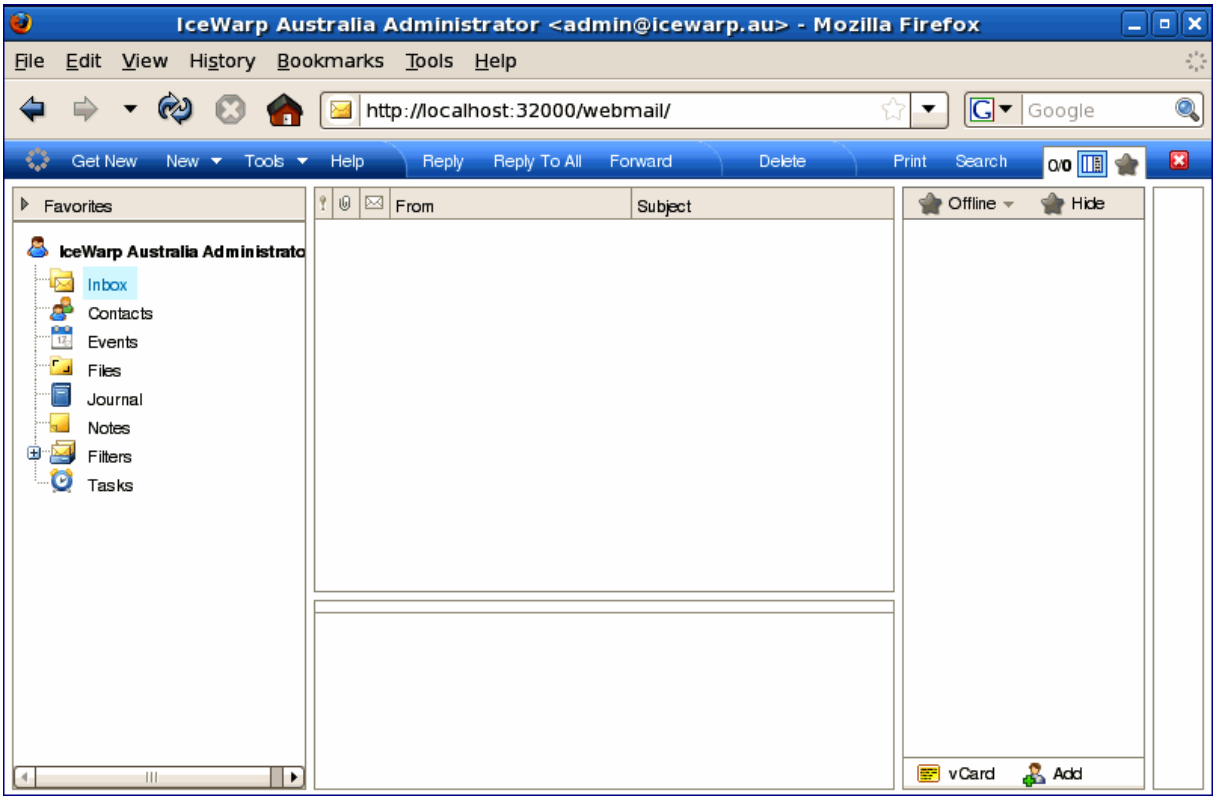


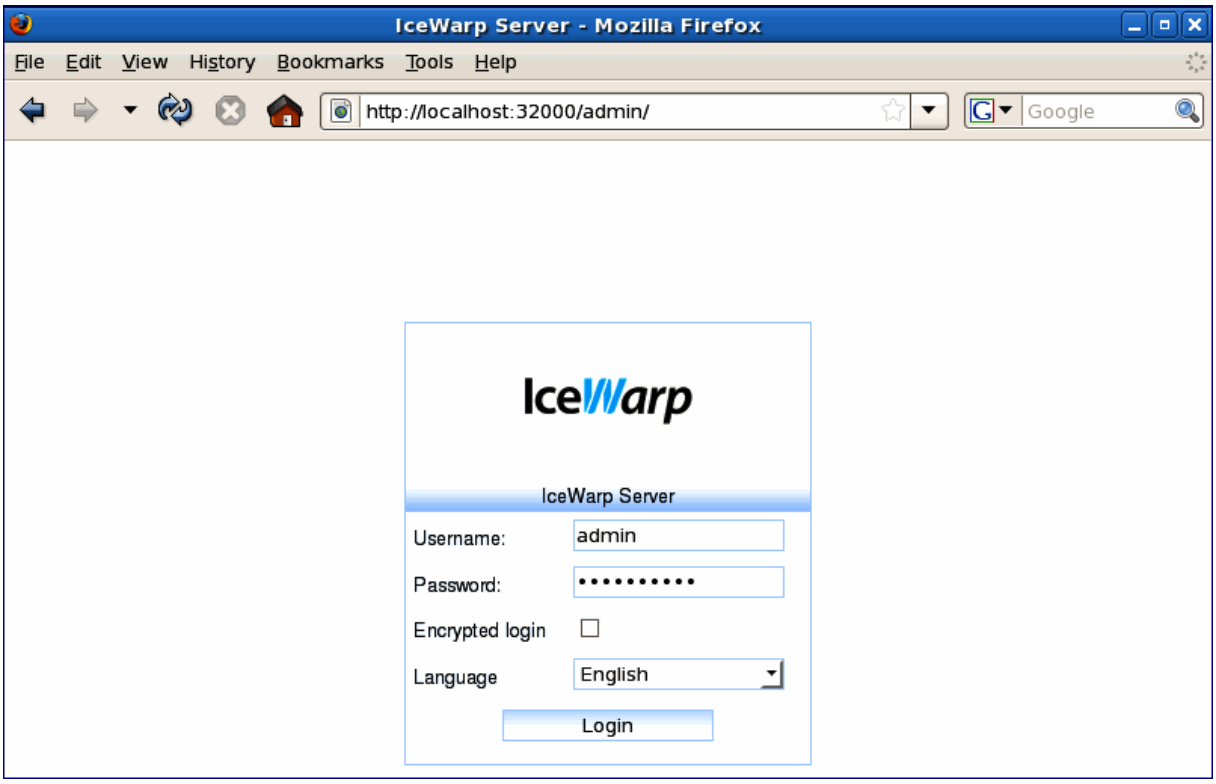
22. Check MySQL tables.

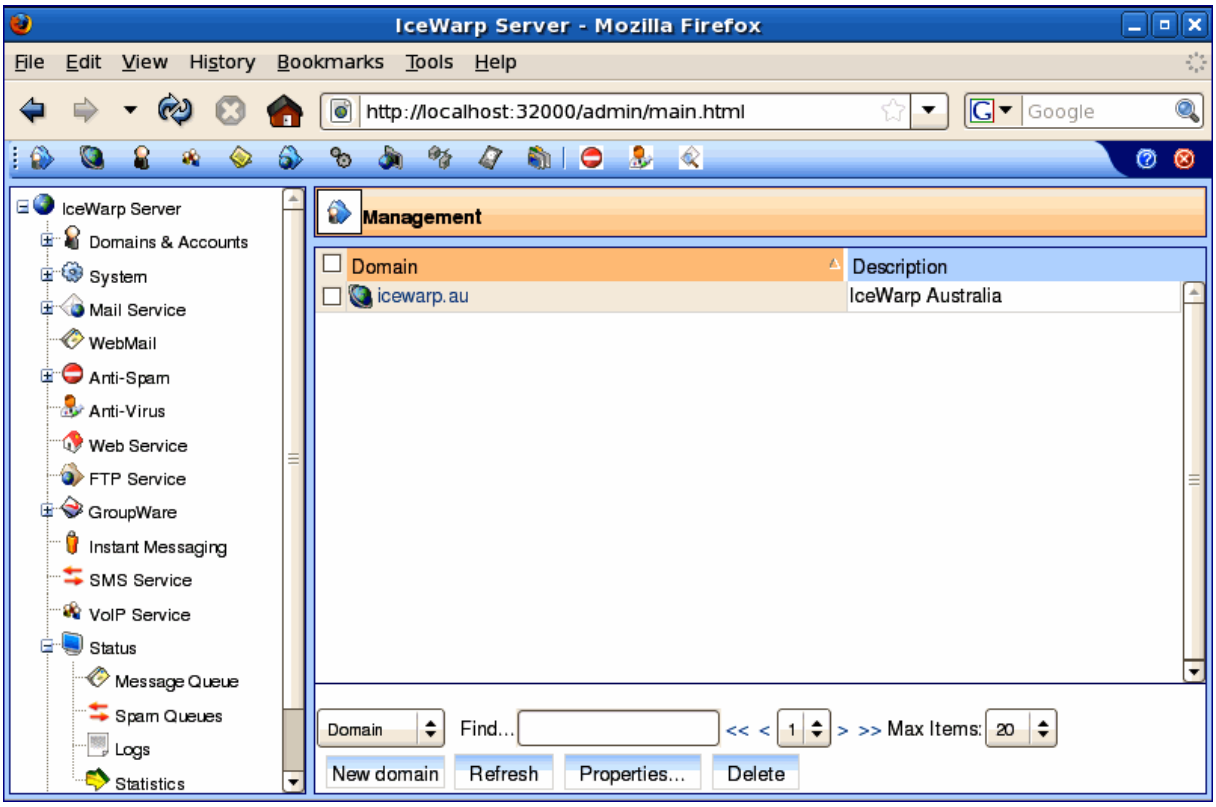



root@centos53svr1:~
File Edit View Terminal Tabs Help
Your MySQL connection id is 42
Server version: 5.0.45 Source distribution
Type 'help;' or '\h' for help. Type '\c' to clear the buffer.
mysql> use icewarp_accounts;
Reading table information for completion of table and column names
You can turn off 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.

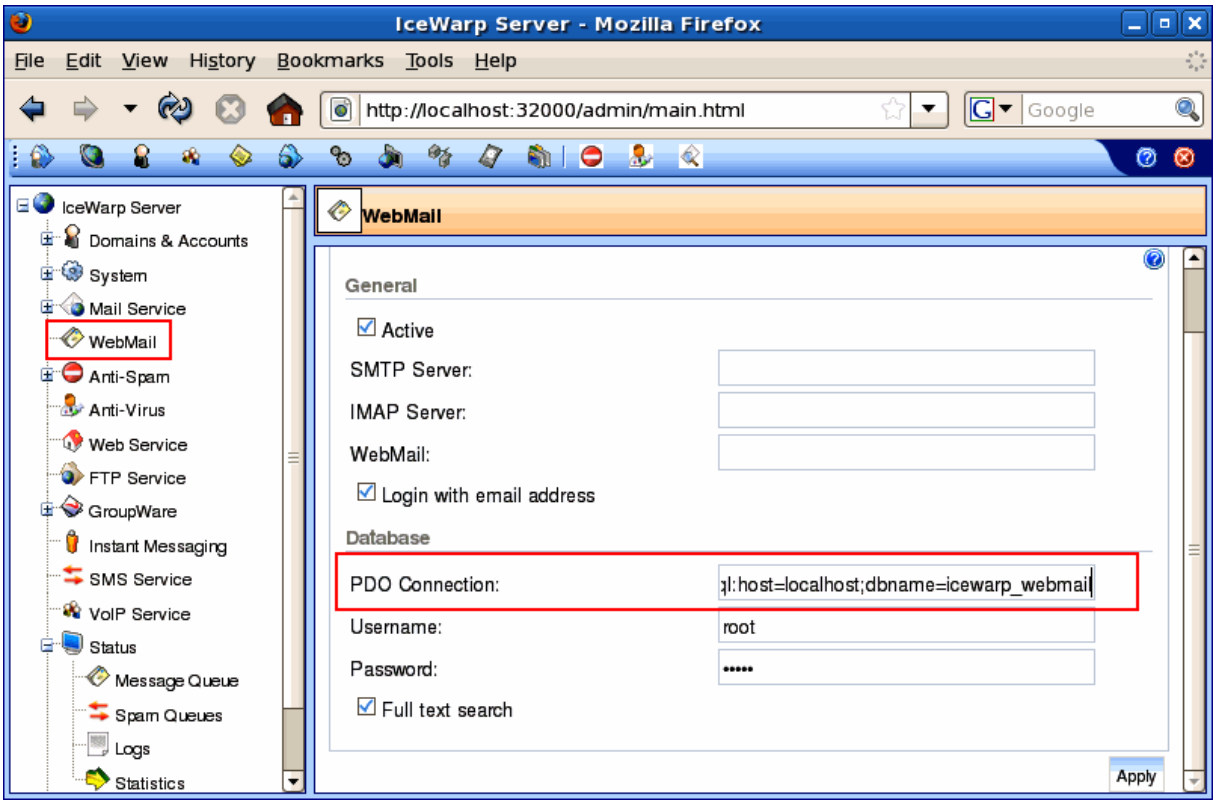



IceWarp Server - Mozilla Firefox
File Edit View History Bookmarks Tools Help
http://localhost:32000/admin/
Google
IceWarp
IceWarp Server
Username:
admin
Password:
Encrypted login
Language
English
Login

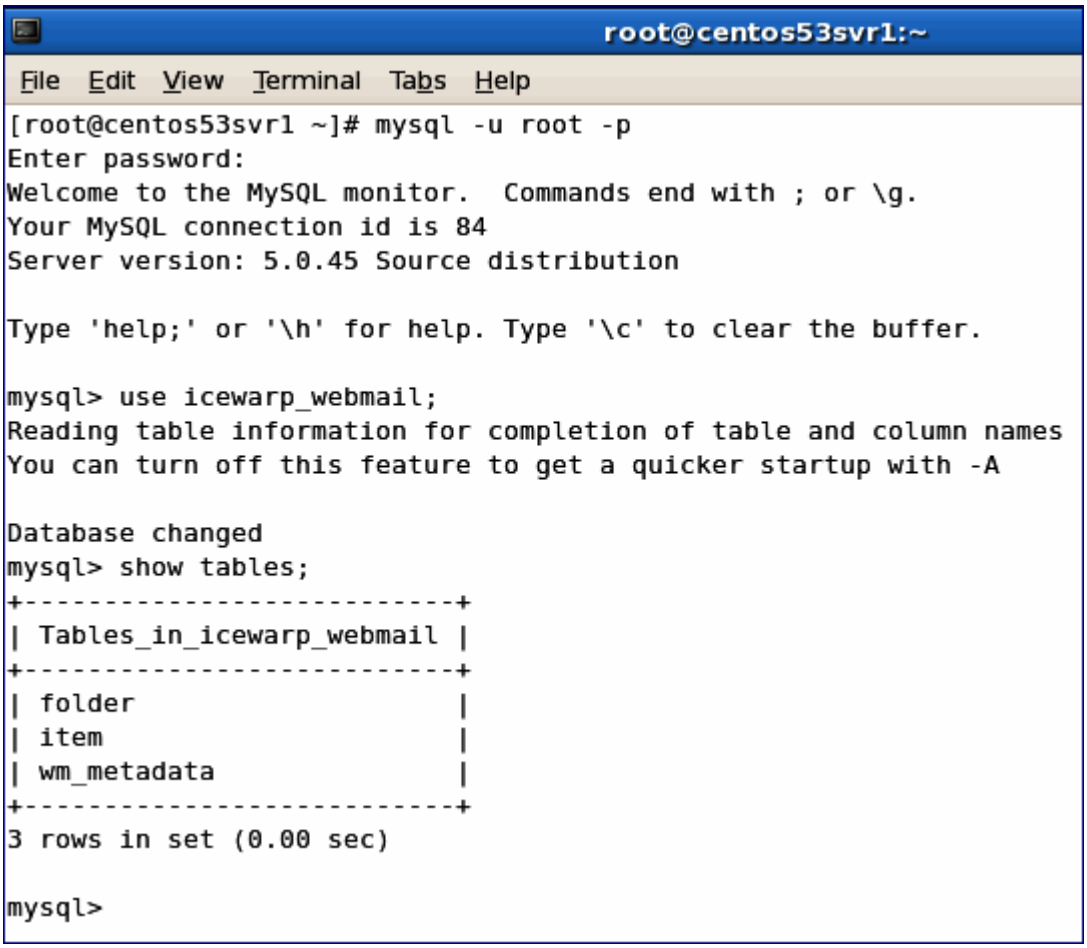

IceWarp Server - Mozilla Firefox
File Edit View History Bookmarks Tools Help
http://localhost:32000/admin/main.html
Google
IceWarp Server
Domains & Accounts
System
Mail Service
WebMail
Anti-Spam
Anti-Virus
Web Service
FTP Service
GroupWare
Instant Messaging
SMS Service
VoIP Service
Status
Message Queue
Spam Queues
Logs
Statistics
Management
Domain
Description
icewarp.au
IceWarp Australia
Domain
Find...
<< < 1 > >> Max Items: 20
New domain
Refresh
Properties...
Delete

Using MySQL Database for IceWarp WebClient

1. Change setting in IceWarp Server to use ***icewarp_webmail*** database in MySQL.

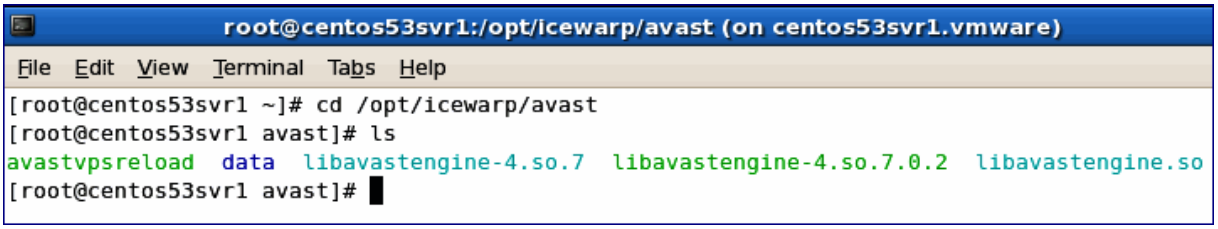


2. After logging into IceWarp WebClient, IceWarp Server will create the necessary tables …



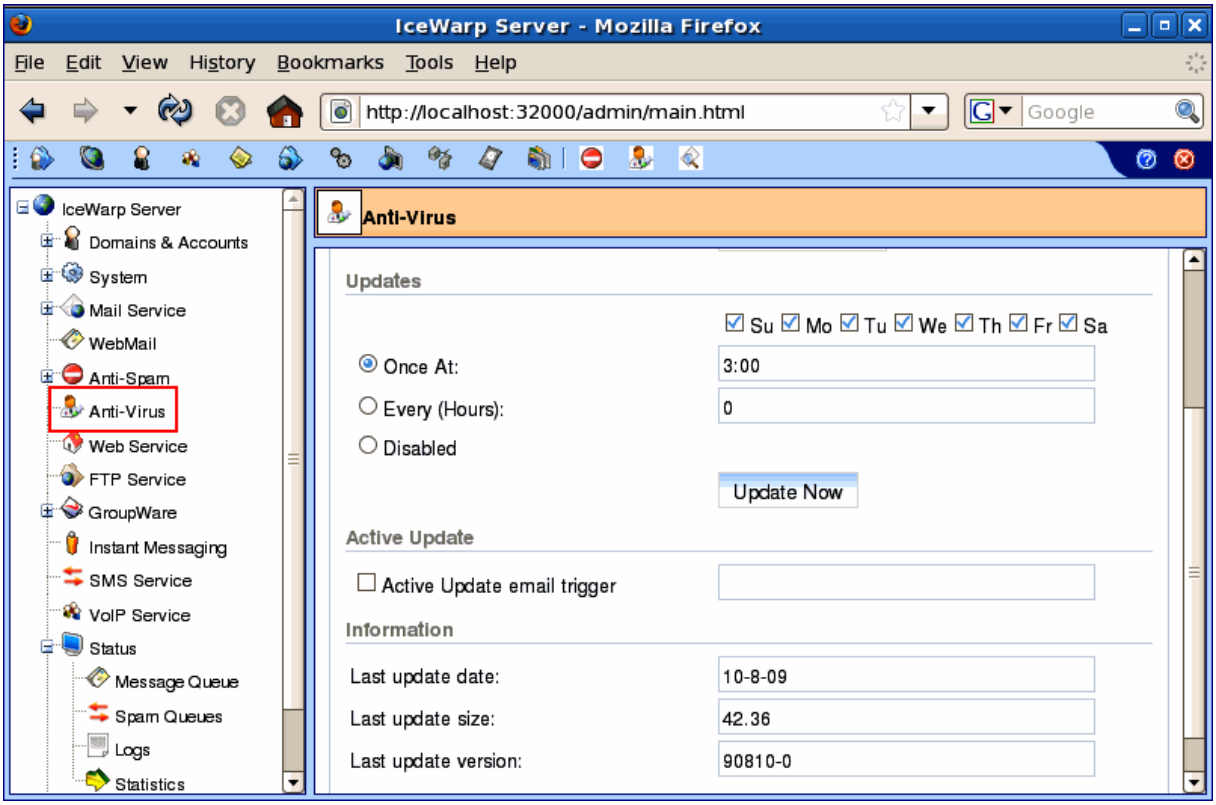
Installing Avast Anti-Virus Library

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



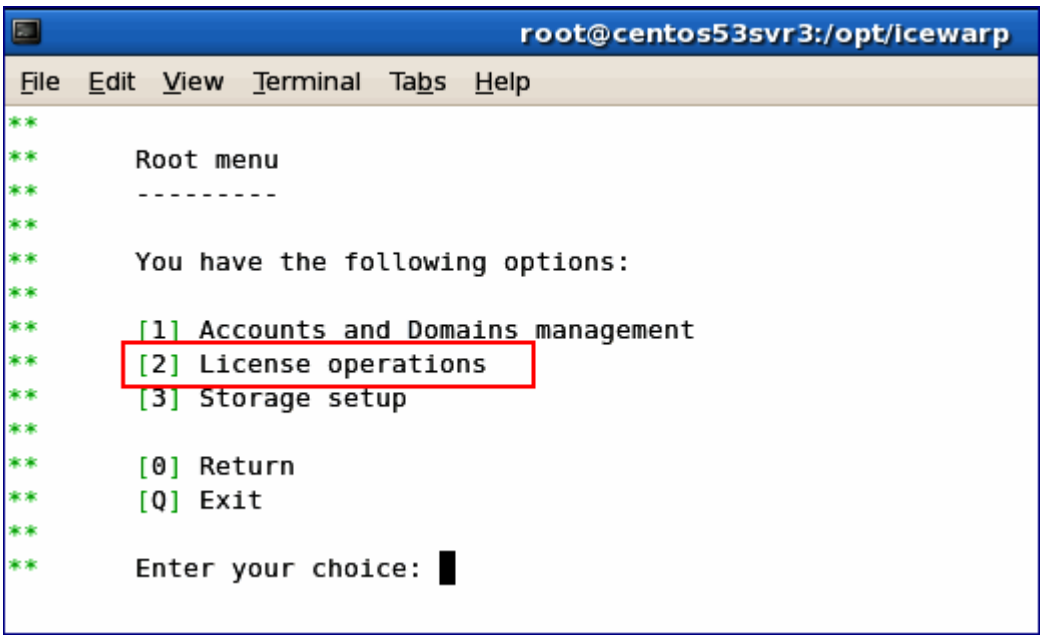
Link to **libavastengine.so** in the **/usr/lib** directory is not needed anymore.

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

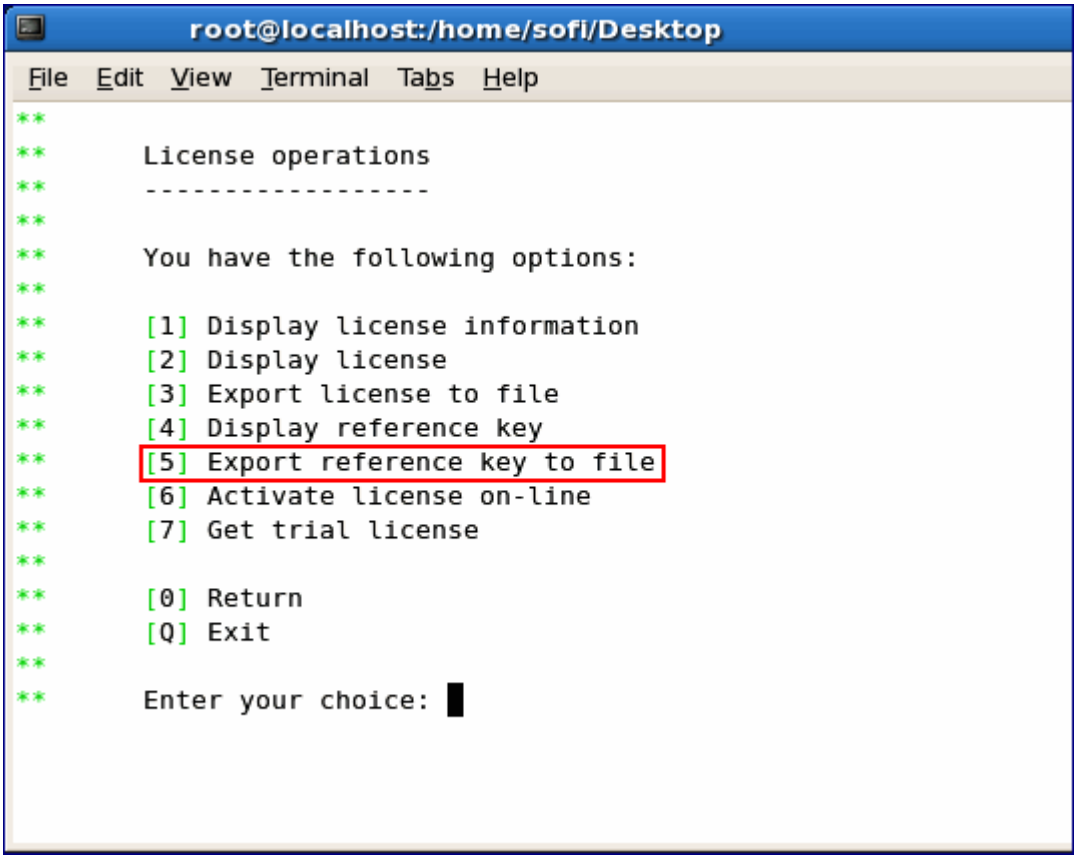


New License Registration

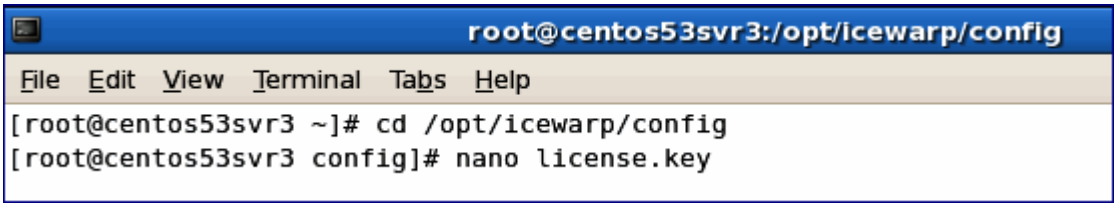
1. Start the **./wizard.sh** from **<pathtoicewarp>** and go to ***[2] License Operations***.

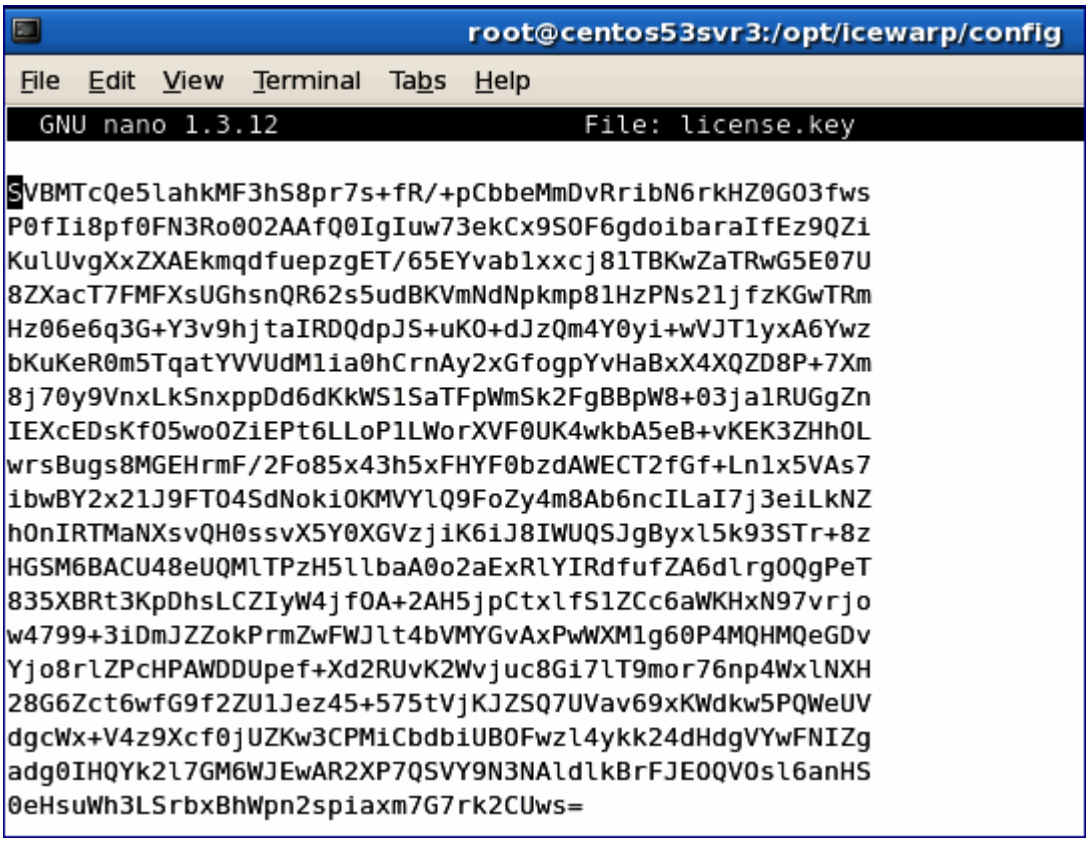


2. Select ***[5] Export reference key to file***, save the file to **<filename>.xml** and send it to your IceWarp Partner for processing of your new license key.

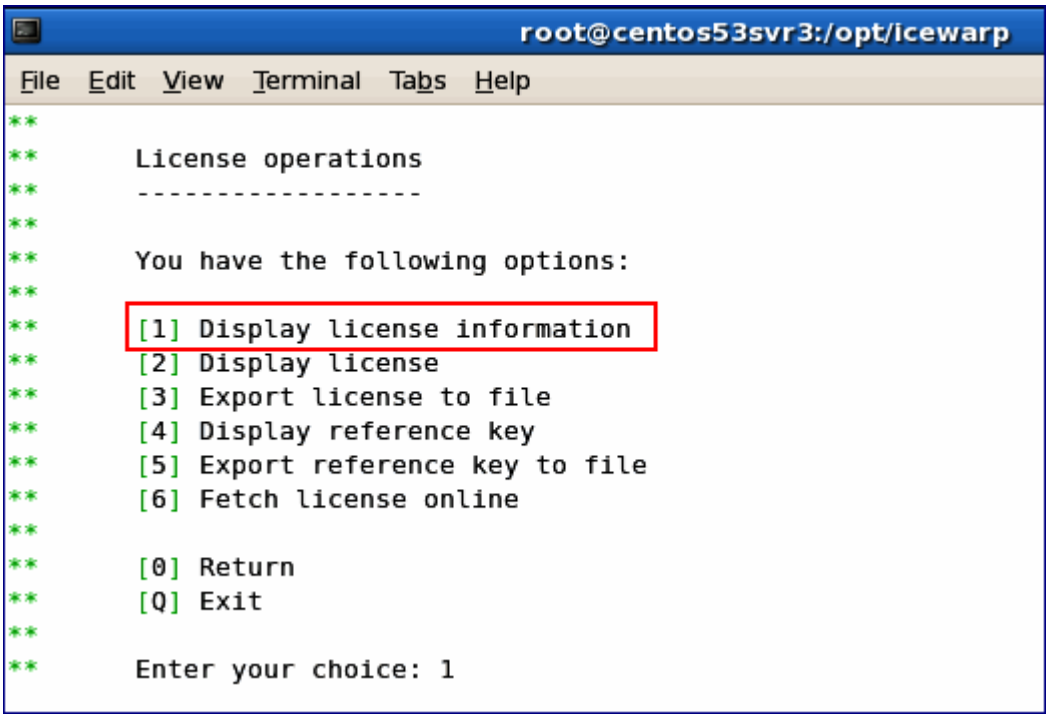


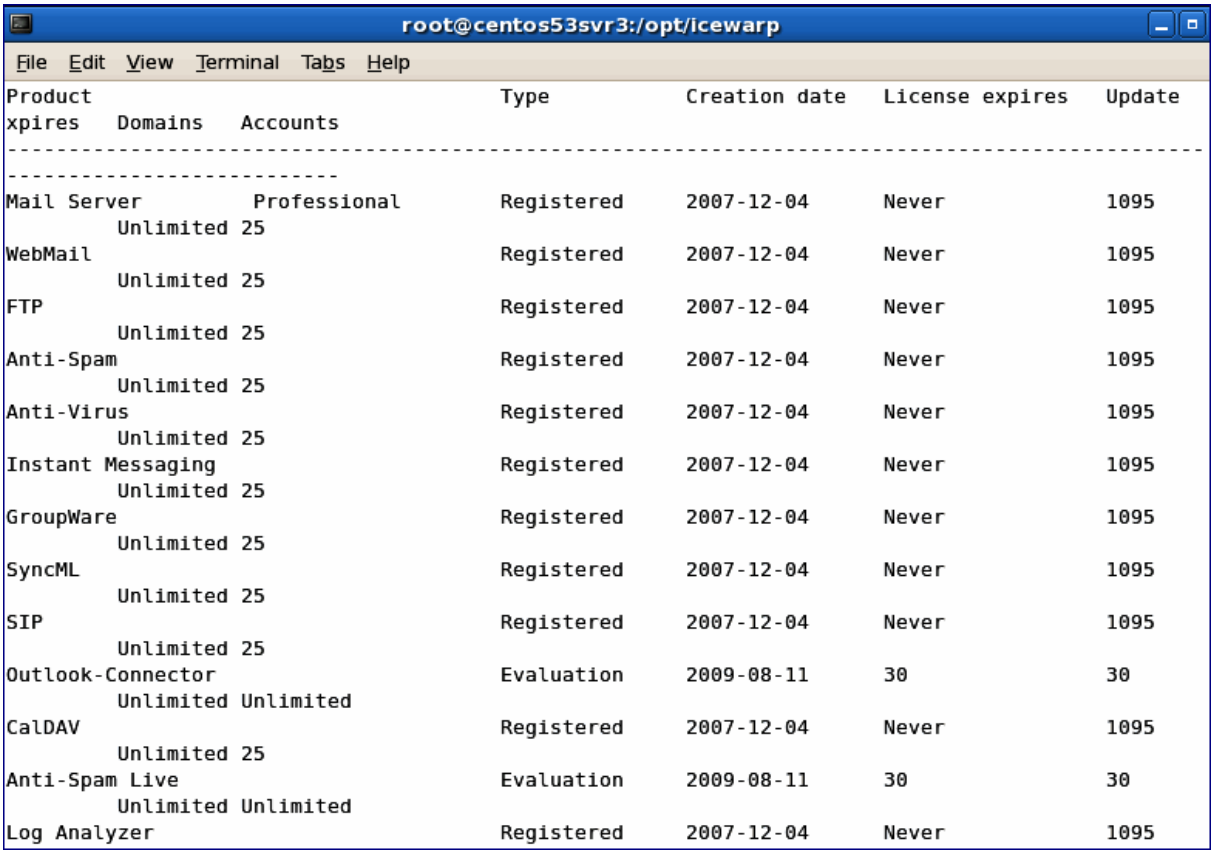
3. Once your NEW license has been processed, it will be e-mailed to you. Copy & paste the license block into **<pathtoicewarp>/config/license.key**.





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
Product Type Creation date License expires Update
xpires Domains Accounts
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
libXdmcp.so.6	libXdmcp.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**
Library	**Package**	**Package**
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 (defult is ***phpd.sh***) as ***WEBAPPMAXTHREADS***.
- If the above condition is not met, then API variable of ***C_WebService_AppMaxThreads*** is passed to configured FastCGI (defult 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.

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

How to Uninstall

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