

Ahsay Offsite Backup Server v4.4

Administrator's Guide

Version 4.4.4
May 2004

Ahsay Offsite Backup Server v4.4

Administrator's Guide

Copyright Notice

© Lebshama Company Limited 2003. All rights reserved.

Author: Scherring Chong

The use and copying of this product is subject to a license agreement. Any other use is prohibited. No part of this publication may be reproduced, transmitted, transcribed, stored in a retrieval system or translated into any language in any form by any means without the prior written consent of Lebshama Company Limited. Information in this manual is subject to change without notice and does not represent a commitment on the part of the vendor. Lebshama does not warrant that this document is error free. If you find any errors in this document, please report to Lebshama Company Limited in writing.

This product includes software developed by the Apache Software Foundation (<http://www.apache.org/>).

Trademarks

Microsoft, Windows, Microsoft Exchange Server and Microsoft SQL Server are registered trademarks of Microsoft Corporation.

Sun, Solaris, SPARC, Java and Java Runtime Environment are registered trademarks of Sun Microsystems Inc.

Oracle, Oracle 8i, Oracle 9i are registered trademarks of Oracle Corporation.

Lotus, Domino, Notes are registered trademark of IBM Corporation.

Red Hat is registered trademark of Red Hat, Inc.

Linux is registered trademark of Linus Torvalds.

Apple and Mac OS X are registered trademarks of Apple Computer, Inc.

All other product names are registered trademarks of their respective owners.

Table Of Content

1	Overview	5
1.1	Benefits	5
1.2	Features.....	5
1.3	Security	5
1.4	System Requirements	6
2	Installation.....	7
2.1	Prerequisite	7
2.2	Install Software.....	7
2.3	Startup/Shutdown	8
2.4	Uninstall Software	9
3	Quick Start.....	11
3.1	Getting started.....	11
4	Backup Server Administration.....	14
4.1	Managing system	14
4.2	Managing log	16
4.3	Managing user	20
5	Customization.....	26
5.1	Listening to non-standard TCP/IP Port.....	26
5.2	Listening to a single IP address	27
5.3	Customizing the welcome page	28
5.4	Customizing the company logo displayed.....	28
5.5	Customizing all text of the web interface	29
5.6	Customizing the Look and Feel of the web interface	30
5.7	Installing a trusted SSL certificate.....	30
5.8	Enforcing SSL to the web interface.....	32
5.9	Localizing the software.....	32
6	External APIs	33
6.1	Overview.....	33
6.2	IP Restrictions.....	33
6.3	Adding User.....	34
6.4	Modifying User Profile.....	34
6.5	Deleting User	35
6.6	Listing Users.....	36

- 6.7 Additional APIs36
- 7 Others37**
 - 7.1 Installing seed load files into an user account37
 - 7.2 Installing LiveUpdate37
 - 7.3 Backing up Ahsay Offsite Backup Server38
 - 7.4 Reviewing access logs38
- 8 Appendixes39**
 - 8.1 Further Information.....39

1 Overview

1.1 Benefits

- Daily backup your files, Microsoft SQL Server 7.0 / 2000 and Oracle 8i / 9i, Lotus Domino/Notes 5.0 or above, Microsoft Exchange Server 2000/2003
- Fully automated. No administration required.
- Send business data offsite to a secure data center
- Protect business data against natural disasters, e.g. fire, flood as well as terrorist attacks.
- Save you time and money
- Easy to deploy and maintain

1.2 Features

- Offsite backup your files, Microsoft SQL Server, Oracle 8i/9i, Lotus Domino/Notes and Microsoft Exchange Server (support both full / incremental backup)
- Easy to use web interface
- Customizable backup schedule allows backup to be scheduled at any time
- Compress and encrypt data automatically before sending them to the server (server stores only encrypted data)
- Increment backup strategy ensures that only new or updated files are sent to backup server
- Access backup data anytime, anywhere by using a browser
- Comprehensive backup report lists all files backed up. Backup report will be delivered to user automatically via email when each backup job completed.
- Backup data are CRC validated before they are stored on server.
- Customizable data retention policy allows user to access files even when they have been deleted.
- Select files to be backed up easily by using backup filter, e.g. selecting all *.doc and *.xls in your computer in a single operation
- Run any custom OS commands before/after a backup job.
- Run on Windows, MAC OS X, Linux, Sun Solaris and all other platforms supporting a Java2 Runtime Environment 1.4.1.
- LiveUpdate allows patches to be deployed to hundreds of clients easily

1.3 Security

- Point-to-point SSL communication between server and client
- Support HTTP/HTTPS Proxy and Socks v4/v5 firewall
- Data are 128-bit encrypted when stored on backup server
- Choice of different encryption algorithms, e.g. Twofish, Triple DES, Advanced Encryption Standard (AES)
- Choice of different encryption modes, e.g. Electronic Cook Book (ECB) and Cipher Block Chaining (CBC)
- An random initializing vector, salt and iteration count will be generated by the software automatically for each file when encrypting your data
- Each backup user can restrict online access to his files to his pre-defined list of IP addresses

1.4 System Requirements

■ Server Software

OS: Windows NT/2000/XP/2003, Redhat Linux 6.x or above *, and all other platforms supporting Java2 SDK 1.3.1, Standard Edition.

Memory: 256MB

Disk Space: 180MB

Network Protocol: TCP/IP (http/https)

Note: Standard C++ libraries for backwards compatibility compiler (compat-libstdc++-x.x-y.y.y.i386.rpm) must be installed if you are not using a Linux 2.2 kernel. These libraries are required to run all Java applications.

■ Client Software

OS: Windows 95/98/ME/NT/2000/XP/2003, Redhat Linux 6.0 or above, Solaris 2.5 or above, Mac OS X, and all other platforms supporting Java2 JRE 1.3.1, Standard Edition.

Memory: 128MB

Disk Space: 30MB

Network Protocol: TCP/IP (http/https)

Note: Standard C++ libraries for backwards compatibility compiler (compat-libstdc++-x.x-y.y.y.i386.rpm) must be installed if you are not using a Linux 2.2 kernel. These libraries are required to run all Java applications.

2 Installation

This chapter describes how to install/uninstall Ahsay Offsite Backup Server onto/from your computer and how to startup/shutdown the Ahsay Offsite Backup Server software installed on your computer.

2.1 Prerequisite

TCP/IP Port 80 and 443 must be free. If you have installed and started an Internet Information Server (IIS) or other services using these ports on this computer, please stop it before you proceed to the next steps.

If you need to use TCP/IP Port 80 or Port 443 for your web application on the same computer, please stop your web listener during the installation of Ahsay Offsite Backup Server. You can then follow the instructions outlined in the [Listening to non-standard TCP/IP port](#) section to configure Ahsay Offsite Backup Server to provide backup services on other port number. You can also configure Ahsay Offsite Backup Server to listen to only a single IP address (when you have more than one IP address within your system) by following the instructions outlined in the [Listening to a single IP address](#) section.

2.2 Install Software

To install Ahsay Offsite Backup Server onto your computer, please do the followings:

On Windows

- i. Logon as [administrator] to Windows
- ii. Run the installation wizard

You can run the installation wizard by:

- a. Inserting the Ahsay Offsite Backup Software CD into your CD-ROM
- b. Downloading the software from <http://www.ahsay.com/en/software/offsite-backup-software-trial.htm>
- iii. Follow the instructions on the installation wizard to complete installation
- iv. Installation completed

After installation, you should see the Ahsay Offsite Backup Server Administration Page.

On Linux

- i. Logon as [root]
- ii. Define the directory you would like to install the software and set the OBS_HOME and APP_HOME environment variables

For example: if you want to install the software to '/usr/local/obs', just do the following:

```
[root]# export OBS_HOME=/usr/local/obs
[root]# export APP_HOME=${OBS_HOME}/conf/localhost
```

You are advised to set both environment variables above in the root profile by adding the commands above to ~/.bash_profile. This way, you will not be required to set the environment variables again when you want to startup and shutdown Ahsay Offsite Backup Server in the future.

iii. Obtain the installation file

You can obtain the installation file (obs-linux.tar.gz) from:

- a. the [linux] directory under the root directory of Ahsay Offsite Backup Server CD
- b. <http://www.ahsay.com/en/software/offsite-backup-software-trial.htm>

iv. Install the software

Copy the installation file, obs-linux.tar.gz, to the parent directory of \$OBS_HOME and untar it.

```
[root]# cp obs-linux.tar.gz $OBS_HOME/..
[root]# cd $OBS_HOME/..
[root]# tar xvfz obs-linux.tar.gz
```

v. You can now start Ahsay Offsite Backup Server by running:

```
[root]# sh $APP_HOME/bin/startup.sh
```

vi. Installation completed

Point your browser to http://localhost/. You should see the Ahsay Offsite Backup Server Administration Page.

2.3 Startup/Shutdown

To startup/shutdown Ahsay Offsite Backup Server, please do the followings:

On Windows

- i. Logon as [administrator] to Windows
- ii. Select the service [Ahsay Offsite Backup Server] from either:
 - a. (For Windows NT) [Control Panel] -> [Services]
 - b. (For Windows 2000/2003) [Control Panel] -> [Administrative Tools] -> [Services]

- c. (For Windows XP) [Control Panel] -> [Performance and Maintenance]
-> [Administrative Tools] -> [Services]
- iii. Startup/Shutdown
 - a. To startup Ahsay Offsite Backup Server, press the [Start] button
 - b. To shutdown Ahsay Offsite Backup Server, press the [Stop] button

On Linux

- i. Logon as [root] to linux
- ii. Please make sure both OBS_HOME and APP_HOME environment variables are set correctly
- iii. Startup/Shutdown Ahsay Offsite Backup Server
 - c. To startup Ahsay Offsite Backup Server, run
`[root]# sh $APP_HOME/bin/startup.sh`
 - a. To shutdown Ahsay Offsite Backup Server, run
`[root]# sh $APP_HOME/bin/shutdown.sh`

2.4 Uninstall Software

Please follow the following instructions to remove Ahsay Offsite Backup Server from your computer:

On Windows

- i. Logon as [administrator] to windows
- ii. From [Control Panel] -> [Add or Remove Program]
- iii. Select [Ahsay Offsite Backup Server]
- iv. Press the [Change / Remove] button
- v. Press the [Uninstall] on the uninstall dialog
- vi. Remove the directory [C:\Program Files\Ahsay Offsite Backup Server] manually

On Linux

- i. Logon as [root] to linux
- ii. Please make sure both OBS_HOME and APP_HOME environment variables are set correctly

- iii. Shutdown Ahsay Offsite Backup Server

```
[root]# sh $APP_HOME/bin/shutdown.sh
```

- iv. Delete all files

```
[root]# rm -rf $OBS_HOME
```

- v. Remove all user files manually if they are not stored under OBS_HOME

- vi. Remove both OBS_HOME and APP_HOME environment variables from
~/.bash_profile

3 Quick Start

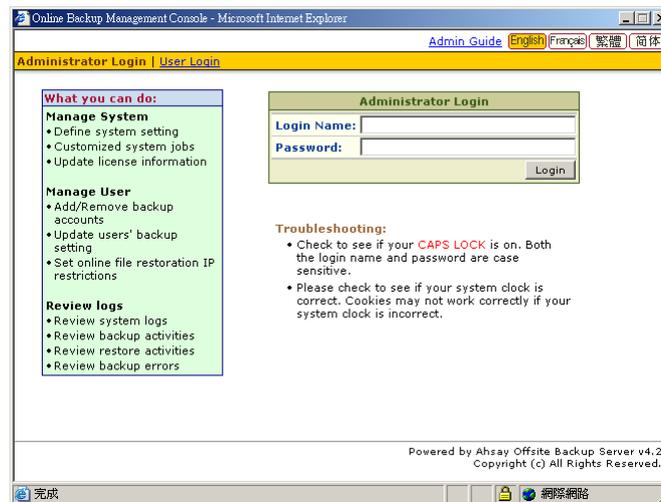
This chapter describes the minimum steps required to start using Ahsay Offsite Backup Server. Please consult the information in the following chapters for a complete reference to all features available in Ahsay Offsite Backup Server.

3.1 Getting started

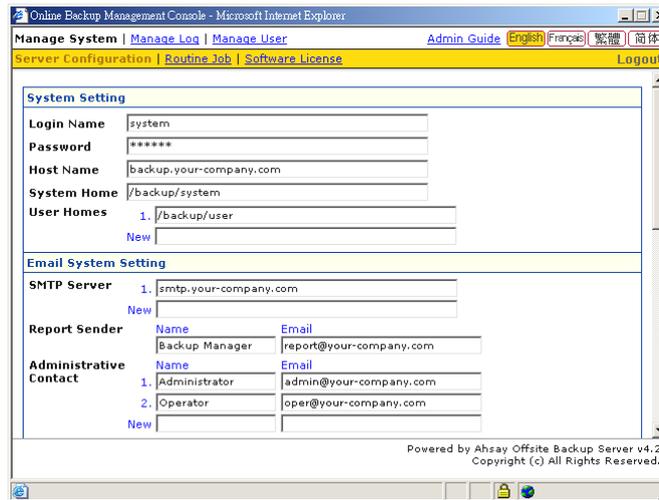
To setup your Ahsay Offsite Backup Server, please do the followings:

- i. Point your browser to <http://your-server/>.
- ii. Logon to [Backup System Administration Logon]

The default username and password is "system" and "system" respectively.



- iii. Setup backup server



Prior to using Ahsay Offsite Backup Server to backup your users' data, please do the followings:

a. Set your hostname

Enter a resolvable hostname of your backup server (e.g. backup.your-company.com) into the [Host Name] text field. Although you can supply an IP address here, it is preferable to use a host name instead.

b. Set the [User Homes] directory

[User Homes] refers to directories where Ahsay Offsite Backup Server stores the backup files and backup log for all its users. You should set [User Homes] to directories where there are lots of free spaces.

c. Set your SMTP Server

Enter a resolvable hostname (or an IP address) of your SMTP server into the [SMTP Server] text field

d. Press the [Update] button

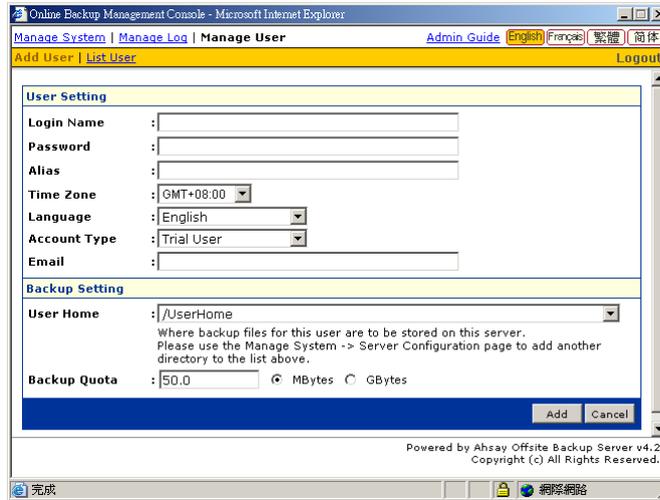
e. Enter your license key (Evaluating users can skip this step)

Enter the licensing information printed on [End User License Agreement] printout into the text field provided in the [Manage System] -> [Software License] panel. Please note that both [Licensee Name] and [License Key] are case sensitive.

iv. Add Backup User

You need to have add a backup user to the system before you can start backing up data to Ahsay Offsite Backup Server. To add a backup user to the system, please do the followings:

- a. Click the [Manage User] link available at the top menu
- b. Enter the user information for the new user account into the form provided



Key	Description
Login Name	Login Name of the new account
Password	Password of the new account
Alias	Another name of the new account
Time zone	Time zone of the new account
Language	Preferred language for email report of the new account
Account Type	Trial User – Account of this type will be deleted from the system after an inactivity period of 30 days Paid User - Account of this type will stay within the system until it is removed from the system by the administrator
Email	Email address of the new account
User Home	The top directory where the software stores backup files and all other information for the new account
Backup Quota	Backup Quota of the new account

- v. Logon as the new user
 - a. Point your browser to http://your-server/.
 - b. Click the [Backup User Logon] link
 - c. Logon with the login name and password you have just created

vi. Run Backup

Please follow the [Quick Start] information available in the Users' Guide to install Ahsay Online Backup Manager onto users' computer to start backing up data.

4 Backup Server Administration

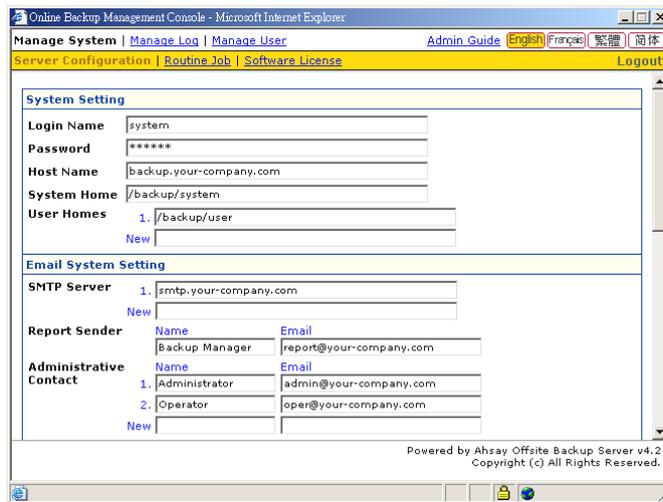
This chapter describes how you can use the Management Console to configure various settings of Ahsay Offsite Backup Server.

4.1 Managing system

This section describes all settings under the [Manage System] menu.

Setting server configuration

When you click the [Manage System] -> [Server Configuration] link available at the top menu, the [Server Configuration] panel will appear. You can use the form available on this panel to define various settings of your backup server.

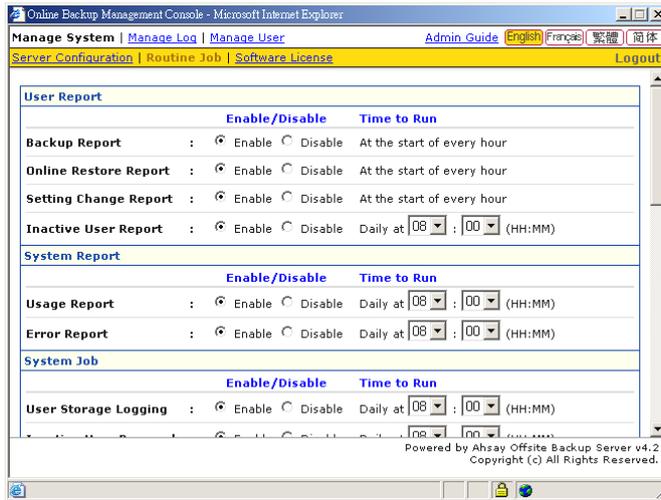


Key	Description
Login Name / Password	Username and password of system account
Host Name	A resolvable hostname of this server (e.g. backup.your-company.com). Although you can supply an IP address here, it is preferable to use a host name instead.
System Home	The directory where Ahsay Offsite Backup Server stores its system information. The default directory for [System Home] is %OBS_HOME%\conf\localhost\system. Normally, you don't need to modify the value of this setting unless you want to store this information elsewhere.
User Homes	The directories where Ahsay Offsite Backup Server stores the backup files and backup log for all its users. You should set [User Homes] to directories where there are lots of free spaces.
SMTP Server	The SMTP server that Ahsay Offsite Backup Server will use to deliver its email reports
Report Sender	The name and email address that will be used as a sender for all outgoing emails

Administrative Contact	The name(s) and email address(es) of the system administrator. System reports (e.g. Daily Usage Report and Daily Error Report) will be delivered to these mailboxes.
Language Setting	It determines whether different languages are enabled
Features Setting	It determines whether the [FAQ] and the [Help] should be available to users
Client Installation Directory	The default directory to where the client software will be installed on clients' computers

Managing routine jobs

When you click the [Manage System] -> [Routine Jobs] link available at the top menu, the [Routine Jobs] panel will appear. You can use the form available on this panel to define your preferences of how you want different system routine jobs to run.



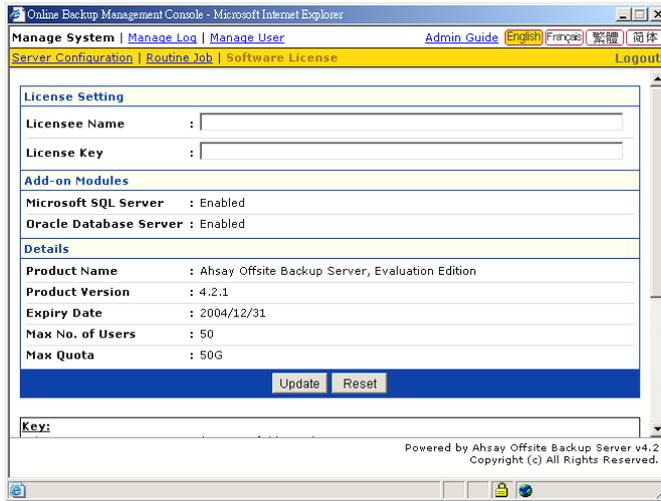
Key	Description
Backup Report	Hourly job sending backup reports to users whose backup job have completed within the last hour.
Online Restore Report	Hourly job sending online file restoration reports to users who have performed and completed an online file restoration action within the last hour.
Setting Change Report	Hourly job sending setting change reports to users who have updated their backup setting within the last hour.
Inactive User Report	Daily job sending inactive user reports to users if their accounts have been inactive for more than 7 days.
Usage Report	Daily job sending system usage reports to system administrators
Error Report	Daily job sending system error reports to system administrators
Inactive User Removal	Daily job deleting all trial accounts that have been inactive for 60 days
Retention Policy Job	Daily job removing obsolete files from the retention area according to each user's retention policy setting
Rebuild User Storage	Weekly job rebuilding all users' storage information by walking through all users' backup files.
Backup Log Removal	Daily job removing backup logs older than this number of days from the system

System Log removal	Daily job removing system logs older than this number of days from the system
Debug Log Removal	Daily job removing debugging logs older than this number of days from the system

Updating software license

When you click the [Manage System] -> [Software License] link available at the top menu, the [Software License] panel will appear. You can use the form available on this panel to activate the software. Please enter the [License Key] (printed on the [Software License Agreement]) into the text field provide to activate the software.

Note: Both [License Name] and [License Key] are case sensitive.



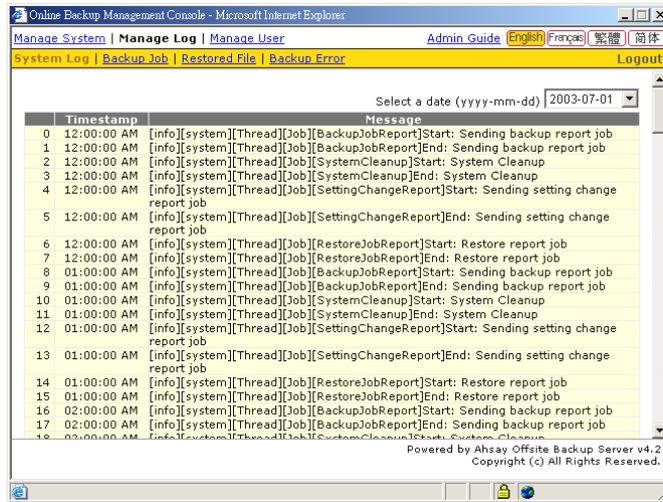
Key	Description
Licensee Name	Business name of the licensee
License Key	License Key to activate this software. Please enter [License Key] as printed on the [Software License Agreement] into the text field provided.
Add-on Module	It shows whether Microsoft SQL Server and Oracle modules are enabled. You need to have a new license key to enable these modules.
Product Name	Name of the licensed product
Product Version	Version number of the licensed product
Expiry Date	The day when the current license key will expire
No. of Users	The maximum number of users supported by the current license key
Max Quota	The maximum quota for each backup account supported by the current license key

4.2 Managing log

This section describes all settings under the [Manage Log] menu.

Reviewing system logs

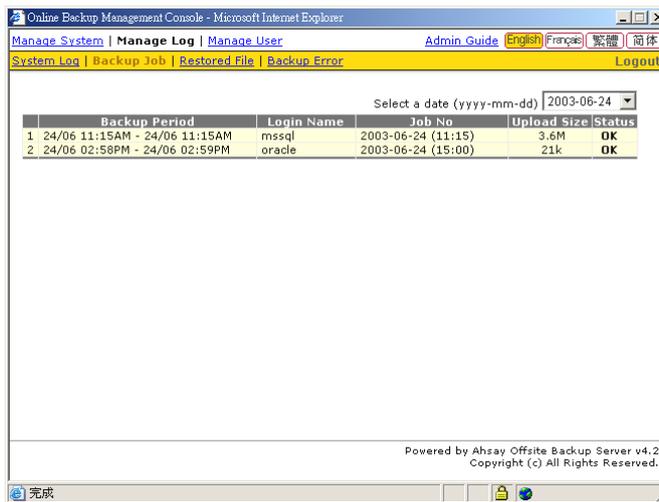
When you click the [Manage Log] -> [System Log] link available at the top menu, the [System Log] panel will appear. It lists all system messages / warnings / errors logged within the date shown on the drop down list. You can review the system messages / warnings / errors logged on any particular date by selecting the required date from the drop down list.



Key	Description
Date	The date when all messages were logged
Timestamp	The time when the message was logged
Message	The system log message

Reviewing backup logs

When you click the [Manage Log] -> [Backup Log] link available at the top menu, the [Backup Log] panel will appear. It lists all backup jobs run on a particular date. You can review the backup jobs run on any particular date by selecting the required date from the drop down list.



Key	Description
Date	The date when all backup jobs listed below were run
Backup Period	Start and end time of this backup job
Login Name	Backup Account that ran this backup job
Job No.	Backup Job Number
Upload Size	Size of backup data uploaded
Status	Overall status of the backup job

Reviewing restored files

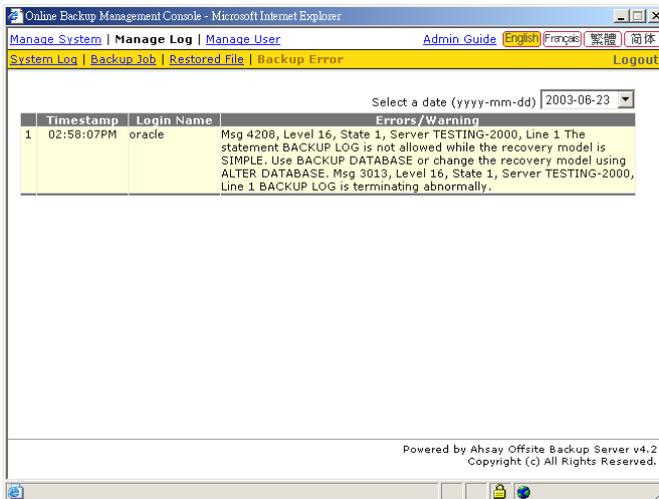
When you click the [Manage Log] -> [Restored File] link available at the top menu, the [Restore Log] panel will appear. It lists all online file restoration activities logged within a date. You can review online file restoration activities recorded on any particular date by selecting the required date from the drop down list.



Key	Description
Date	The date when all online file restoration were recorded
Timestamp	Start and end time of the file restoration activities
Login Name	Backup account restoring files from the server
Size	Total backup data restored from the server
IP	IP address to where backup data were restored

Reviewing backup errors

When you click the [Manage Log] -> [Backup Error] link available at the top menu, the [Backup Error] panel will appear. It lists all backup errors or warning logged within a date. You can review backup errors or warnings logged on any particular date by selecting the required date from the drop down list.



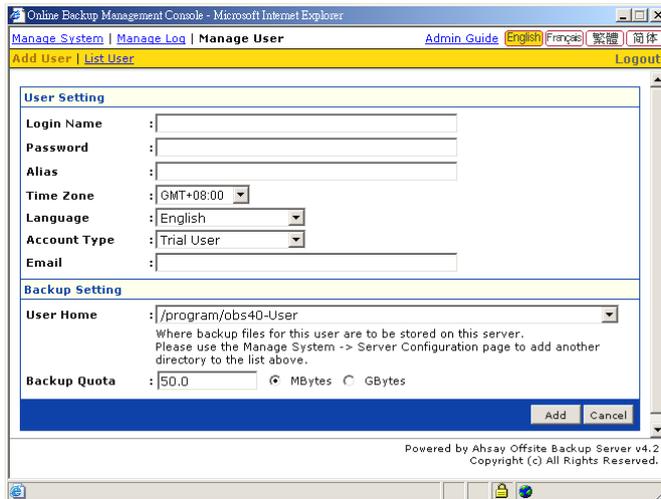
Key	Description
Date	The time when all messages were logged
Timestamp	The time when this message was logged
Login Name	Backup account raising this error or warning
Errors / Warnings	Details of the error or warning recorded

4.3 Managing user

This section describes all settings under the [Manage User] menu.

Adding user

When you click the [Manage User] -> [Add User] link available at the top menu, the [Add User] panel will appear. You can add a user to the system by filling in the form provided.

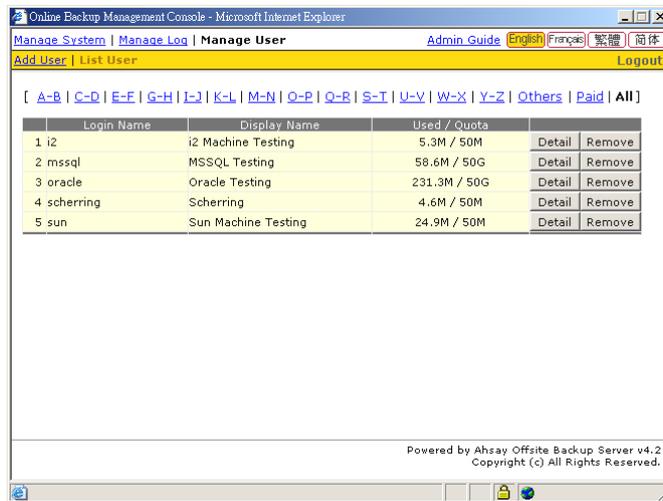


Key	Description
Login Name	Login Name of the new account
Password	Password of the new account
Alias	Another name of the new account
Time zone	Time zone of the new account
Language	Preferred language for all email reports of the new account
Account Type	Trial User – Account of this type will be deleted from the system after an inactivity period of 30 days Paid User - Account of this type will stay within the system until it is removed from the system by the administrator
Email	Email address of the new account
User Home	The top directory where the software stores backup files and all other information for the new account
Backup Quota	Backup Quota of the new account

Removing user

When you click the [Manage User] -> [List User] link available at the top menu, the [List User] panel will appear. You can use the alphabet categories at the top of the user listing to limit the listing to show only those users whose login names starting with a certain alphabet. You can also use the [All] function available to list all users within the system.

To remove a user from the system, just press the [Remove] button next the user you would like to remove.

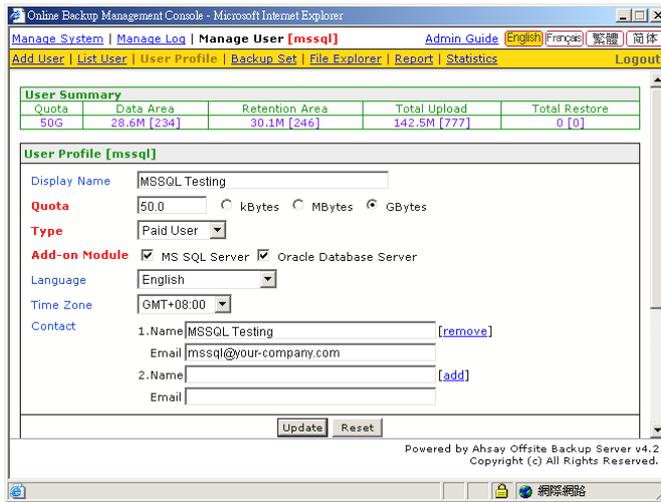


Key	Description
Login Name	Login Name of this account
Display Name	Alias of this account
Used/Quota	The used and the allocated quota of this backup account
Detail	Show the details of this backup account
Remove	Remove this backup account

Updating User Profile

After you press the [Detail] button next to a user on the [Manage User] -> [List User] panel, you will be brought to the [User Profile] panel of this particular user. You can use this panel to update the profile of this user.

This panel is no different to the [User Profile] panel that users will see when they logon to the user area except that you can update the [Type], [Quota] and [Add-on Module] (shown in **RED**) entry on this panel.

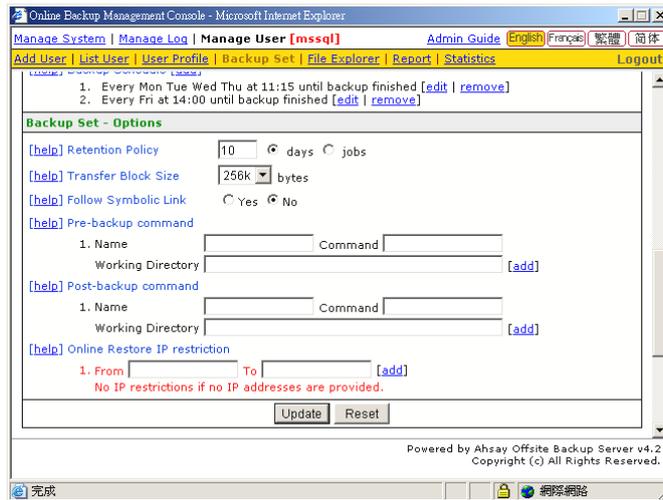


Key	Description
Quota	Backup Quota of this backup account
Type	User Type of this backup account
Add-on Module	Whether [MS SQL Server] and [Oracle Database Server] add-on Modules are enabled for this backup account

Updating users' backup setting

After pressing the [Detail] button next to a user on the [Manage User] -> [List User] panel, a [Backup Set] link is now available in the extended user menu. You can review the backup setting of this particular user by clicking the [Backup Set] link.

To update the backup setting of this particular user, just make the required changes on the form below and press the [Update] button.

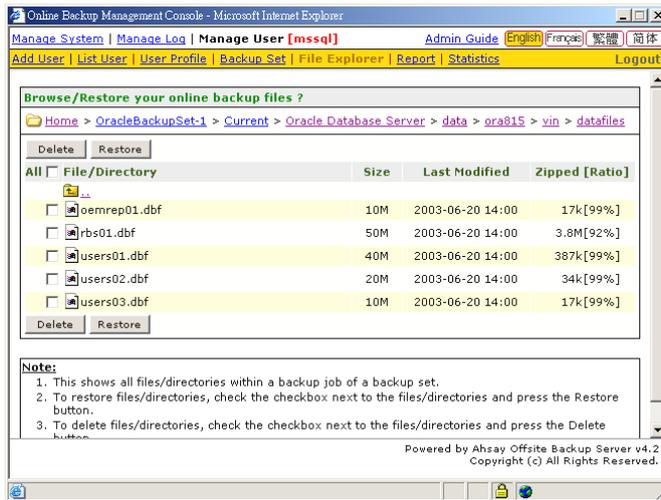


Setting Online Restore IP Restriction

At the bottom of the [Backup Set] panel, you should be able to find the [Online Restore IP Restriction] section. If you would like to restrict online file restore of this backup set to only a subset of trusted IP addresses, you just need to enter the trusted IP addresses here. Once you have entered some IP addresses into the IP restriction list, online file restore request originating from IP addresses not listed on this list will no longer be able to restore any files from this backup set. (You can use the IP range of 127.0.0.1 – 127.0.0.1 to disable online restore completely)

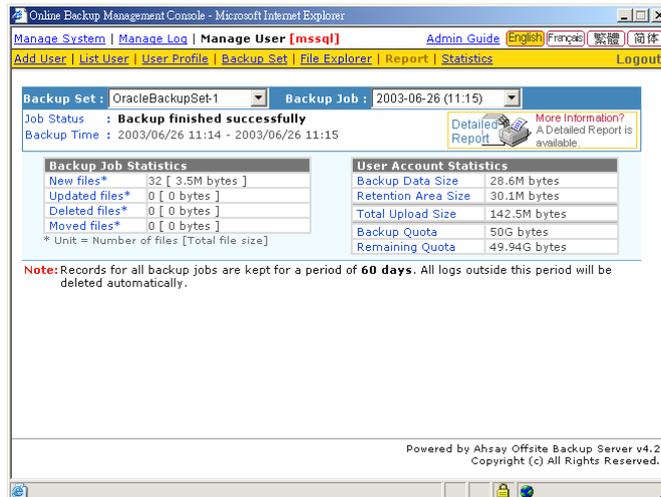
Browsing Backup Files

You can click the [File Explorer] link available at the extended [Manage User] menu to invoke the [File Explorer] panel. You can use this panel to browse and restore user's backup files. This panel is the same [File Explorer] panel that users would see when they click the [File Explorer] link after they have logged on to the system. Please refer to the User's Guide for information on how to restore user's backup files.



Reviewing Backup Report

You can click the [Report] link available at the extended [Manage User] menu to invoke the [Report] panel. You can use this panel to review users' backup activities. This panel is the same [Report] panel that users would see when they click the [Report] link after they have logged on to the system. Please refer to the User's Guide for information on how to review users' backup activities.



Reviewing Storage Statistics

You can click the [Statistics] link available at the extended [Manage User] menu to invoke the [Statistics] panel. You can use this panel to review users' storage statistics. This panel is the same [Statistics] panel that users would see when they click the [Statistics] link after they have logged on to the system. Please refer to the User's Guide for information on how to review users' storage

statistics.

Online Backup Management Console - Microsoft Internet Explorer

Manage System | Manage Log | **Manage User [mssql]** | Admin Guide | English | Français | 繁體 | 简体

Add User | List User | User Profile | Backup Set | File Explorer | Report | Statistics | Logout

Select a month
Month (YYYY-MM) : 2003-06

Storage Usage Summary

Date	Data Area	Retention Area	Uploaded Size	Total Storage
2003-06-01	0[0]	9.2M[22]	0[0]	9.2M[22]
2003-06-02	0[0]	9.2M[22]	0[0]	9.2M[22]
2003-06-03	157k[6]	9.2M[22]	157k[6]	9.3M[28]
2003-06-04	157k[6]	9.2M[22]	0[0]	9.3M[28]
2003-06-05	157k[6]	9.2M[22]	0[0]	9.3M[28]
2003-06-06	157k[6]	9.2M[22]	0[0]	9.3M[28]
2003-06-07	157k[6]	9.2M[22]	0[0]	9.3M[28]
2003-06-08	157k[6]	9.2M[22]	0[0]	9.3M[28]
2003-06-09	157k[6]	9.2M[22]	0[0]	9.3M[28]
2003-06-10	157k[6]	9.2M[22]	0[0]	9.3M[28]
2003-06-11	157k[6]	9.2M[22]	0[0]	9.3M[28]
2003-06-12	157k[6]	9.2M[22]	0[0]	9.3M[28]
2003-06-13	157k[6]	9.2M[22]	0[0]	9.3M[28]
2003-06-14	157k[6]	9.2M[22]	0[0]	9.3M[28]
2003-06-15	157k[6]	9.2M[22]	0[0]	9.3M[28]
2003-06-16	157k[6]	9.2M[22]	0[0]	9.3M[28]
2003-06-17	19.2M[148]	9.2M[22]	19M[142]	28.4M[170]

Powered by Ahsay Offsite Backup Server v4.2
Copyright (c) All Rights Reserved.

5 Customization

The default installation of Ahsay Offsite Backup Server setup a typical environment to run your backup server but it is still possible that the default setting does not fit well into your environment. The chapter describes all supported customizations you can do to the software to fulfil your special needs.

5.1 Listening to non-standard TCP/IP Port

If you like to run your own web server, or some other services using port 80 and 433, on your backup server, you can change the listening TCP/IP port of Ahsay Offsite Backup Server from port 80 and 443 to some other port numbers by:

- i. Open %INSTALL_DIR%\conf\localhost\tomcat-base\conf\server.xml

Server.xml
<pre> <Server port="8005" shutdown="SHUTDOWN" debug="0"> <Service name="Tomcat-Standalone"> <Connector className="org.apache.catalina.connector.http.HttpConnector" address="0.0.0.0" port="80" minProcessors="10" maxProcessors="200" enableLookups="false" redirectPort="443" bufferSize="32768" acceptCount="300" debug="0" connectionTimeout="60000" /> <Connector className="org.apache.catalina.connector.http.HttpConnector" address="0.0.0.0" port="443" minProcessors="10" maxProcessors="200" enableLookups="false" acceptCount="300" bufferSize="32768" debug="0" scheme="https" secure="true" connectionTimeout="60000"> <Factory className="org.apache.catalina.net.SSLServerSocketFactory" keystoreFile="conf/keystore" keystorePass="changeit" clientAuth="false" protocol="TLS" /> </Connector> ... </pre>

- ii. Change the [port] values (shown in red and bold above) to the preferred port numbers. For example, to change the HTTP port from port 80 to 8080 and HTTPS port from port 443 to port 8443, please do the followings:

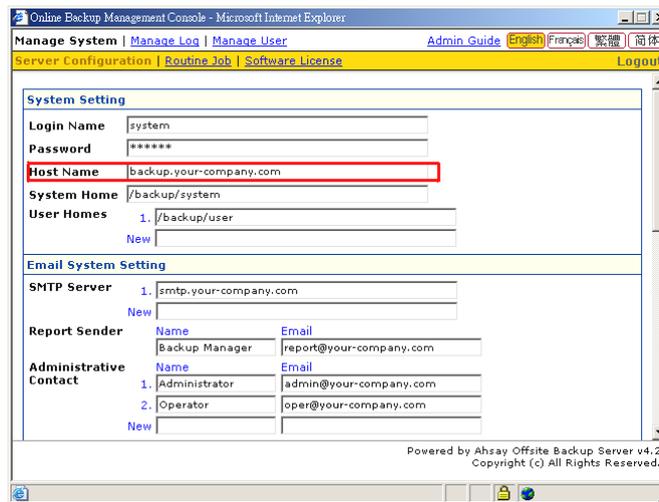
```

port="80" -> port="8080"
redirectPort="443" -> redirectPort="8443"
port="443" -> port="8443"

```

- iii. Restart Ahsay Offsite Backup Server
- iv. Logon to the System Management Console
- v. Append the custom TCP/IP port number to the [Host Name] setting

For example: backup.your-company.com:8080



5.2 Listening to a single IP address

If the backup server has more than one network interface installed or has more than one IP address bind to a single network interface, you can configure Ahsay Offsite Backup Server to use only a single IP address for backup services (by default the TCP port of all IP addresses available within the system are used and open). This has the benefits of sparing other IP addresses for other applications, e.g. Apache Web Server or Microsoft Internet Information Server (IIS). To do so,

- i. Open %INSTALL_DIR%\conf\localhost\tomcat-base\conf\server.xml

```

Server.xml
<Server port="8005" shutdown="SHUTDOWN" debug="0">
  <Service name="Tomcat-Standalone">
    <Connector className="org.apache.catalina.connector.http.HttpConnector"
      address="0.0.0.0" port="80" minProcessors="10" maxProcessors="200"
      enableLookups="false" redirectPort="443" bufferSize="32768"
      acceptCount="300" debug="0" connectionTimeout="60000" />
    <Connector className="org.apache.catalina.connector.http.HttpConnector"
      address="0.0.0.0" port="443" minProcessors="10" maxProcessors="200"
      enableLookups="false" acceptCount="300" bufferSize="32768"
      debug="0" scheme="https" secure="true" connectionTimeout="60000">
      <Factory className="org.apache.catalina.net.SSLServerSocketFactory"
        keystoreFile="conf/keystore"
        keystorePass="changeit"
        clientAuth="false" protocol="TLS"/>
    </Connector>
  ...

```

- ii. Change the [address] values (shown in red and bold above) to the IP address that are to be used for Ahsay Offsite Backup Server. For example, to use only the IP address, 192.168.1.1, for backup service, change the address values from "0.0.0.0" (means all available IP addresses) to "192.168.1.1"

address="0.0.0.0" -> address="192.168.1.1"

- iii. Restart Ahsay Offsite Backup Server

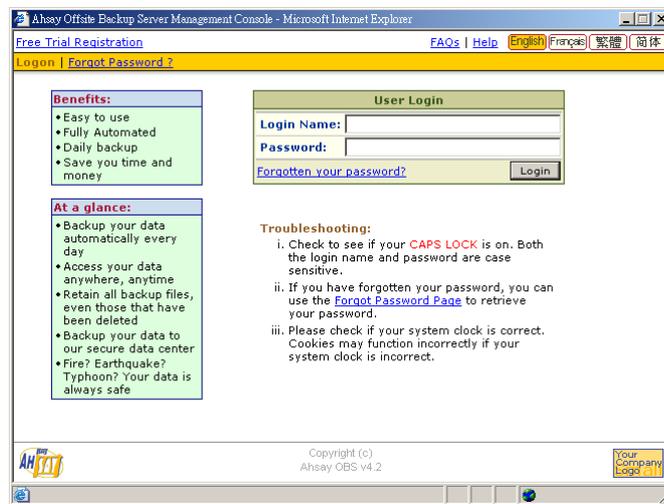
If you are going to use IIS along with Ahsay Offsite Backup Server on different IP addresses as mentioned here, please make sure that you have configured IIS to spare the IP address configured above to be used by Ahsay Offsite Backup Server (by default IIS will use the all IP addresses available). Failing to do so will result in failing to start both IIS and Ahsay Offsite Backup Server at the same time.

5.3 Customizing the welcome page

If you would like to use your own welcome page on the backup server, simply replace the default welcome page, %INSTALL_DIR%\conf\localhost\tomcat-base\webapps\root\index.htm, with your own welcome page.

5.4 Customizing the company logo displayed

Two different logos are displayed on the bottom left hand corner and bottom right hand corner of every page.



You can customize the logos shown on the bottom left hand corner and the bottom right hand corner of every page by:

- i. Go to %INSTALL_DIR%\conf\localhost\tomcat-base\webapps\obs\logo
- ii. To display your image at the bottom left hand corner of every page, simply save your image as "default.small.left.gif" in the directory above
- iii. To display your image at the bottom right hand corner of every page, simply save your image as "default.small.right.gif" in the directory above
- iv. If you don't want to display any images at these locations, just rename "empty.gif" to "default.small.left.gif" or "default.small.right.gif"

Different logos for different domain names

If you are mapping both domain "www.company-A.com" and domain "www.company-B.com" to the IP address of the Ahsay Offsite Backup Server and you want to display different logos when users are browsing the web pages using different domain names, you can do the followings:

- i. Go to %INSTALL_DIR%\conf\localhost\tomcat-base\webapps\obs\logo
- ii. To display your image at the bottom left and right hand corner of every page for domain "www.company-A.com", simply save your image as "www.company-A.com.small.left.gif" and "www.company-A.com.small.right.gif" respectively in the directory above
- iii. To display your image at the bottom left and right hand corner of every page for domain "www.company-B.com", simply save your image as "www.company-B.com.small.left.gif" and "www.company-B.com.small.right.gif" respectively in the directory above

5.5 Customizing all text of the web interface

All text displayed on the web interface of Ahsay Offsite Backup Server are stored in properties files. If you want to modify any of the text information displayed on the web interface, please do the followings:

- i. Open %INSTALL_DIR%\conf\localhost\tomcat-base\webapps\obs\WEB-INF\classes\jsp_*.properties (e.g. en=English, fr=French, da=Danish, nl=Dutch, zh_TW=Traditional_Chinese, zh_CN=Simplified_Chinese, de=German, es=Spanish, it=Italian etc)
- ii. Make the changes to the properties file to what you would like to see.

For example, if you want to change the HTML title of all user and system logon pages to "ABC Online Backup Management Console", you can make the changes as shown below.

Extract of jsp_en.properties (Original)
<pre>.... GLOBAL.ProductName.UserTitle=Ahsay Online Backup Services Management Console GLOBAL.ProductName.SystemTitle=Ahsay Offsite Backup Server Management Console</pre>

Extract of jsp_en.properties (updated)
<pre>.... GLOBAL.ProductName.UserTitle= ABC Online Backup Management Console GLOBAL.ProductName.SystemTitle= ABC Online Backup Management Console</pre>

- iii. After making all the changes, save the properties file and restart Ahsay Offsite Backup Server.

Note: Properties file accepts only Unicode Escape Sequences (e.g. \u963F) for all non 7-Bit ASCII characters (with character code greater than 127). If you need to enter these characters into the properties file, please make your changes to the Unicode version of the properties files available in the same directory (e.g. jsp_fr.properties.Unicode.txt for French properties file) instead. After you have made the changes, use an external utility to convert all Unicode characters within the Unicode properties file to Unicode Escape Sequences and replace the contents in the required properties file (i.e. jsp_fr.properties) with the new Unicode Escape Sequence. Please contact us if you need any assistance in this matter.

5.6 Customizing the Look and Feel of the web interface

The Look and Feel (e.g. font size and color) of the web interface of Ahsay Offsite Backup Server is defined by a set of rules defined in a cascade style sheet. If you want to customize the Look and Feel of the web interface to fully integrate Ahsay Offsite Backup Server into your website, you can do the followings:

- i. Open %INSTALL_DIR%\conf\localhost\tomcat-base\webapps\obs\jsp\lib\jsp_*.css (e.g. en=English, fr=French, da=Danish, nl=Dutch, zh_TW=Traditional_Chinese, zh_CN=Simplified_Chinese, de=German, es=Spanish and it=Italian etc)
- ii. Make the changes to the cascade style sheet file to what you would like to see.

For example, if you want to change the English user menu bar from yellowish color (#FFCC00) to red color. Please do the followings:

Extract of jsp_en.css (Original)
<pre>.... /* menu bar - background color; text color, weight */ .usermenu_menubar { background-color: #FFCC00; color: #000000 font-weight: normal }</pre>

Extract of jsp_en.css (updated)
<pre>.... /* menu bar - background color; text color, weight */ .usermenu_menubar { background-color: red; color: #000000 font-weight: normal }</pre>

- iii. Restart your browser to see the changes

5.7 Installing a trusted SSL certificate

Default installation of Ahsay Offsite Backup Server enables SSL (Secure Socket Layer) support using a dummy certificate. For your own security, you are advised to replace the pre-installed dummy SSL certificate with a secure SSL certificate from a trusted CA (Certificate Authority). To

replace the non-secure dummy SSL certificate with a secure SSL certificate, please do the following:

- i. Identify the location of the keystore file

You need to store your SSL certificate in a keystore file. The default location of the keystore file is %INSTALL_DIR%\conf\localhost\tomcat-base\conf\keystore.

- ii. Delete dummy certificate from keystore

You can delete the dummy SSL certificate from the keystore by running:

```
%INSTALL_DIR%\program\jdk1.3.1\bin\keytool -delete -alias tomcat -keystore
%INSTALL_DIR%\conf\localhost\tomcat-base\conf\keystore
```

- iii. Generate RSA key pair

A SSL certificate contains a RSA key pair. You can generate a RSA key pair by running:

```
%INSTALL_DIR%\program\jdk1.3.1\bin\keytool -genkey -alias tomcat -keyalg RSA
-keystore %INSTALL_DIR%\conf\localhost\tomcat-base\conf\keystore
```

- iv. Create a local Certificate Signing Request (CSR)

You can create a CSR for your SSL certificate by running:

```
%INSTALL_DIR%\program\jdk1.3.1\bin\keytool -certreq -keyalg RSA -alias tomcat
-file ssl.csr -keystore %INSTALL_DIR%\conf\localhost\tomcat-base\conf\keystore
```

- v. Submit the CSR file to a trusted CA

- vi. Import signed SSL certificate from CA to the keystore

```
%INSTALL_DIR%\program\jdk1.3.1\bin\keytool -import -alias tomcat -trustcacerts -file ssl.crt
-keystore %INSTALL_DIR%\conf\localhost\tomcat-base\conf\keystore
```

Examples
<pre>C:\Program Files\Ahsay Offsite Backup Server v43\conf\localhost\tomcat-base\conf> C:\Program Files\Ahsay Offsite Backup Server v43\program\jdk1.3.1\bin\keytool -genkey -alias tomcat - keyalg RSA -keystore cacerts Enter keystore password: changeit What is your first and last name? [Unknown]: www.not-secure-company.com What is the name of your organizational unit? [Unknown]: NOT SECURE What is the name of your organization? [Unknown]: NOT SECURE What is the name of your City or Locality? [Unknown]: NOT SECURE What is the name of your State or Province? [Unknown]: NOT SECURE What is the two-letter country code for this unit? [Unknown]: NS Is <CN=www.not-secure-company.com, OU=NOT SECURE, O=NOT SECURE, L=NOT SECURE, ST=NOT SECURE, C=NS> correct? [no]: yes Enter key password for <tomcat> (RETURN if same as keystore password): C:\Program Files\Ahsay Offsite Backup Server\conf\localhost\tomcat-base\conf> C:\Program Files\Ahsay Offsite Backup Server\program\jdk1.3.1\bin\keytool -certreq -keyalg RSA -alias</pre>

```

tomcat -file certreq.csr -keystore cacerts
Enter keystore password: changeit

C:\Program Files\Ahsay Offsite Backup Server\conf\localhost\tomcat-base\conf > C:\Program
Files\Ahsay Offsite Backup Server\program\jdk1.3.1\bin\keytool -import -alias tomcat -
keystore cacerts -trustcacerts -file www.not-secure-company.com.crt
Enter keystore password: changeit
Certificate reply was installed in keystore

```

5.8 Enforcing SSL to the web interface

If you want all users to connect to the web interface of Ahsay Offsite Backup Server using SSL to ensure secure connection, please do the followings:

- i. Open %INSTALL_DIR%\conf\localhost\tomcat-base\webapps\obs\WEB-INF\web.xml
- ii. Locate the [Enforce SSL] section at the end of "web.xml"

web.xml
<pre> <!-- ===== Enforce SSL ===== --> <!-- == Please uncomment the following section to enforce SSL for the web interface == --> <!-- ===== --> <!-- <security-constraint> <web-resource-collection> <web-resource-name>Automatic SSL Forwarding</web-resource-name> <url-pattern>/jsp/user/*</url-pattern> <url-pattern>/jsp/system/*</url-pattern> </web-resource-collection> <user-data-constraint> <transport-guarantee>CONFIDENTIAL</transport-guarantee> </user-data-constraint> </security-constraint> --> </pre>

- iii. Remove the XML comment tags ("**<!--**" and "**-->**", shown in red and bold above) from "web.xml"
- iv. Restart Ahsay Offsite Backup Server

5.9 Localizing the software

It is currently possible to have Ahsay Offsite Backup Server localized to another language without the assistance of Ahsay development team. If you would like to have Ahsay Offsite Backup Server available in languages other than those currently supported, please feel free to contact us to discuss possible arrangement.

6 External APIs

Ahsay Offsite Backup Server contains a set of APIs (Application Programming Interface), which allows you to integrate external applications (e.g. billing system or automated registration system) with Ahsay Offsite Backup Server. This chapter describes what APIs are available and how you can invoke different APIs.

6.1 Overview

Ahsay APIs can be invoked by using standard HTTP request method (i.e. either POST or GET). For example, to invoke the [Remove User] API, simply use any programming/scripting languages of your choice to invoke

"http://BACKUP_SERVER/obs/api/RemoveUser.do?SysUser=system&SysPwd=system&LoginName=test" to delete user "test".

URL encoding must be applied to all non-alphanumeric parameters when submitting the API requests as specified in the HTTP protocol specification.

6.2 IP Restrictions

To avoid Ahsay's APIs from being exploited by hackers from an unauthorized network, Ahsay Offsite Backup Server, by default, accepts and handles only the API requests originating from the same local machine. To loosen this restriction, please do the followings:

- i. Open %INSTALL_DIR%\conf\localhost\tomcat-base\webapps\obs\WEB-INF\web.xml
- ii. Locate the [filter] section near the beginning of "web.xml"

web.xml
<pre> **** <filter> <filter-name>LocalhostOnly</filter-name> <filter-class>com.ahsay.obs.www.IPFilter</filter-class> <init-param> <param-name>Range1</param-name> <param-value>localhost</param-value> </init-param> </filter> <filter-mapping> <filter-name>LocalhostOnly</filter-name> <url-pattern>/api/*</url-pattern> </filter-mapping> **** </pre>

- iii. Change the [Range1] parameter value from "localhost" (shown in red and bold above) to a range of IP addresses from where APIs can be invoked.

For example, changing [Range1] value from "localhost" to "192.168.1.1-192.168.1.255" to allow the 192.168.1.x network to invoke the APIs.

web.xml (Updated)
<pre> **** <filter> <filter-name>LocalhostOnly</filter-name> <filter-class>com.ahsay.obs.www.IPFilter</filter-class> <init-param> <param-name>Range1</param-name> </pre>

```
<param-value>192.168.1.1-192.165.1.255</param-value>
</init-param>
</filter>
<filter-mapping>
  <filter-name>LocalhostOnly</filter-name>
  <url-pattern>/api/*</url-pattern>
</filter-mapping>
....
```

- iv. Restart Ahsay Offsite Backup Server

6.3 Adding User

The following table describes all information required to invoke the [Add User] API to add a new user to an Ahsay Offsite Backup Server.

URL:			
http://BACKUP_SERVER/obs/api/AddUser.do			
Parameters:			
Key	Value	Descriptions	
SysUser	String	Ahsay's System Username	
SysPwd	String	Ahsay's System password	
LoginName	String	New user's login name	
Password	String	New user's password	
Alias	String	New user's alias	
Language	String	New user's language, e.g. [en fr nl da zh_TW zh_CN]	
Email	String	New user's email, e.g. john@ahsay.com	
Type	String	New user's type, e.g. [TRIAL PAID]	
Quota	Number	New user's quota, 104857600	
UserHome	String	User Home to use for the new user (must be one of the configured user home), e.g. C:\Program Files\Ahsay Offsite Backup Server\conf\localhost\user	
EnableMSSQ	Boolean	Whether to enable Microsoft SQL Server module for the new user, e.g. [Y N]	
EnableMSExchange	Boolean	Whether to enable Microsoft Exchange Server module for the new user, e.g. [Y N]	
EnableOracle	Boolean	Whether to enable Oracle module for the new user, e.g. [Y N]	
EnableLotusNotes	Boolean	Whether to enable Lotus Notes module for the new user, e.g. [Y N]	
EnableLotusDomino	Boolean	Whether to enable Lotus Domino module for the new user, e.g. [Y N]	
Return Value:			
<OK> if success <err>%ERROR_MESSAGE%</err> if there is an error			
Example:			
http://BACKUP_SERVER/obs/api/AddUser.do?SysUser=system&SysPwd=system&LoginName=test&Password=abc&Alias=Testing&Language=en&Email=abc%40abc%2Ecom&Type=PAID&Password=abc&Quota=100000&UserHome=E%3A%5C&EnableMSSQL=Y&EnableMSExchange=Y&EnableOracle=Y&EnableLotusNotes=Y&EnableLotusDomino=Y			

6.4 Modifying User Profile

The following table describes all information required to invoke the [Modify User] API to update a user's profile in an Ahsay Offsite Backup Server.

URL:

http://BACKUP_SERVER/obs/api/ModifyUser.do		
Parameters:		
Key	Value	Descriptions
SysUser	String	Ahsay's System Username
SysPwd	String	Ahsay's System password
LoginName	String	New user's login name
Password	String	New user's password
Alias	String	New user's alias
Language	String	New user's language, e.g. [en fr nl da zh_TW zh_CN]
Type	String	New user's type, e.g. [TRIAL PAID]
Quota	Number	New user's quota, 104857600
UserHome	String	User Home to use for the new user (must be one of the configured user home), e.g. C:\Program Files\Ahsay Offsite Backup Server\conf\localhost\user
EnableMSSQ	Boolean	Whether to enable Microsoft SQL Server module for the new user, e.g. [Y N]
EnableMSEExchange	Boolean	Whether to enable Microsoft Exchange Server module for the new user, e.g. [Y N]
EnableOracle	Boolean	Whether to enable Oracle module for the new user, e.g. [Y N]
EnableLotusNotes	Boolean	Whether to enable Lotus Notes module for the new user, e.g. [Y N]
EnableLotusDomino	Boolean	Whether to enable Lotus Domino module for the new user, e.g. [Y N]
Return Value:		
<OK/> if success <err>%ERROR_MESSAGE%</err> if there is an error		
Example:		
http://BACKUP_SERVER/obs/api/ModifyUser.do?SysUser=system&SysPwd=system&LoginName=test&Password=abc&Alias=Testing&Language=en&Type=PAID&Password=abc&Quota=100000&UserHome=E%3A%5C&EnableMSSQL=Y&EnableMSEExchange=Y&EnableOracle=Y&EnableLotusNotes=Y&EnableLotusDomino=Y		

6.5 Deleting User

The following table describes all information required to invoke the [Remove User] API to remove an existing user from an Ahsay Offsite Backup Server.

URL:		
http://BACKUP_SERVER/obs/api/RemoveUser.do		
Parameters:		
Key	Value	Descriptions
SysUser	String	Ahsay's System Username
SysPwd	String	Ahsay's System password
LoginName	String	Login name of user to be deleted
Return Value:		
<OK/> if success <err>%ERROR_MESSAGE%</err> if there is an error		
Example:		
http://BACKUP_SERVER/obs/api/RemoveUser.do?SysUser=system&SysPwd=system&LoginName=test		

6.6 Listing Users

The following table describes all information required to invoke the [List Users] API to get a list of all users available within an Ahsay Offsite Backup Server.

URL:		
http://BACKUP_SERVER/obs/api/ListUser.do		
Parameters:		
Key	Value	Descriptions
SysUser	String	Ahsay's System Username
SysPwd	String	Ahsay's System password
Return Value:		
<p>It should be self-explanatory. For example:</p> <pre><users> <user LoginName="john" DataSize="1234" DataFile="1234" RetainSize="1234" RetainFile="1234" > <Contact name="John (Email1)" email="john@ahsay.com" /> <Contact name="John (Email2)" email=" johnmy@ahsay.com " /> </user> <user LoginName="peter " DataSize="2345" DataFile="2345" RetainSize="2345" RetainFile="2345" > <Contact name="Peter (Email1)" email=" peter@ahsay.com" /> <Contact name="Peter (Email2)" email=" pete@ahsay.com " /> </user> </users></pre> <p>where</p> <ul style="list-style-type: none"> DataSize – total amount of bytes in the data area DataFile – total number of files in the data area RetainSize – total amount of bytes in the retention area RetainFile – total number of files in the retention area <p>If there is an error, it returns <err>%ERROR_MESSAGE%</err></p>		
Example:		
http://BACKUP_SERVER/obs/api/ListUser.do?SysUser=system&SysPwd=system		

6.7 Additional APIs

If you need additional APIs to automate your business workflow, please feel free to let us know.

7 Others

This chapter describes all other features available in the software.

7.1 Installing seed load files into an user account

A backup user can use the [Seed Load Utility] to transport its first full backup to an offsite backup server without having to upload a large volume of data through the Internet (Please refer to the User's Guide for more information). When the seed load files are transported to the backup server (either using removable hard disk or DVD-R), please follow the instructions below to install them into the required user account:

- i. Locate the home directory of the backup user

A backup user's home directory is a directory named the login name of the backup user under one of the Ahsay's [User Homes] directories. [User Homes] is a system-wide setting which can be accessed under the [Manage System] menu after logging onto the web system management console.

For example:

The default [Users Homes] directory is "C:\Program Files\Ahsay Offsite Backup Server\conf\localhost\user". If the login name of the backup account is "john", the home directory of user "john" should be "C:\Program Files\Ahsay Offsite Backup Server\conf\localhost\user\john"

- ii. Copy all seed load files to the home directory

Find the "files" directory from the seed load files, and copy the "files" directory to the backup user's home directory.

In this example, you should copy the "files" directory to "C:\Program Files\Ahsay Offsite Backup Server\conf\localhost\user\john"

- iii. Check if all files are installed correctly

Logon to the web interface of Ahsay Offsite Backup Server with the backup user account ("john" in this example) and click the [File Explorer] link available at the top of the menu. Check if you can see all seed load files correctly installed.

7.2 Installing LiveUpdate

The LiveUpdate feature allows you to deploy bug fixes to hundreds of clients without re-installing the software to hundreds of client computers. You just need to install the updated release of the Live Update module to %INSTALL_DIR%\conf\localhost\tomcat-base\webapps\obs\liveUpdate. The client software installed on clients' computer will download the updated software onto their machines automatically and will use the updated software to run its backup job.

Please note that the client software will only download the updated software when a scheduled backup is run. If a user does not schedule any backup jobs, the updated software will never be picked up by the client software.

7.3 Backing up Ahsay Offsite Backup Server

All system settings you have made on the web pages behind the [Backup System Administration Logon] link are saved in %INSTALL_DIR%\conf\localhost\config\obs.xml. You just need to backup this file to backup all the settings.

Of course, all files under the [User Homes] directories and [System Home] directory are to be backed up unless you can afford to lose your users' backup data and all system information logged by Ahsay Offsite Backup Server.

7.4 Reviewing access logs

If you are interested in reviewing how your clients are accessing Ahsay Offsite Backup Server, you can take a look at the access logs files available in %INSTALL_DIR%\conf\localhost\logs\ as access_log.YYYY-MM-DD.txt.

8 Appendixes

8.1 Further Information

If you need any additional information, please contact us by support@ahsay.com.