

Ahsay Online Backup Manager v7

Quick Start Guide for Linux (CLI)

Ahsay Systems Corporation Limited

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Revision History

Date	Descriptions	Type of modification
29 June 2016	First Draft	New
25 January 2017	Ch. 1.1, 2.4	New
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17 Oct 2017	Added comparison of online and offline installation for Ch.3; Added online installation for Ubuntu for Ch.3.1; Added offline installation for Ch.3.2;	New

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1 System Requirements

1.1 Supported Platforms

Refer to the following KB article for the list of supported operating systems:

FAQ: Ahsay Software Compatibility List (SCL) for version 7.3 or above (5001)

<https://forum.ahsay.com/viewtopic.php?f=169&t=13492>

1.2 Linux Packages

The following packages has to be present on the Linux machine in order for AhsayOBM v7 to be installed.

- curl <https://curl.haxx.se>

The 'curl' command is used by both the AhsayOBM sh script and rpm installer to download components from AhsayCBS server during the installation process.

- tar <https://www.gnu.org/software/tar>

The 'tar' command is used by both the AhsayOBM sh script, gz, and rpm installer to uncompress and extract installation files or components downloaded from the AhsayCBS backup server onto the Linux machine.

- rpm <http://rpm.org>

The 'rpm' package must be installed to use the AhsayOBM rpm installation method.

- dpkg <https://packages.ubuntu.com/trusty/dpkg>

The 'dpkg' package must be installed to use the AhsayOBM deb installation method on Ubuntu LTS Linux platforms supported from v7.15.0.0 or above.

2 Getting started

This quick start guide will walk you through the following 5 major parts to get you started with using AhsayOBM.

Download and Install

Download and Install AhsayOBM on your Linux machine

Launch AhsayOBM

Launch and log in to AhsayOBM

Create File Backup Set

Create backup set according to your preferences

Run Backup Jobs

Run the backup job to back up data

Restore Data

Restore backed up data to your system

3 Download and Install AhsayOBM

From v7.15.0.0 or above Ubuntu Linux LTS distributions are officially supported. AhsayOBM can be installed from a *.deb package using dpkg for online installation or from *.sh package for both online and offline installation.

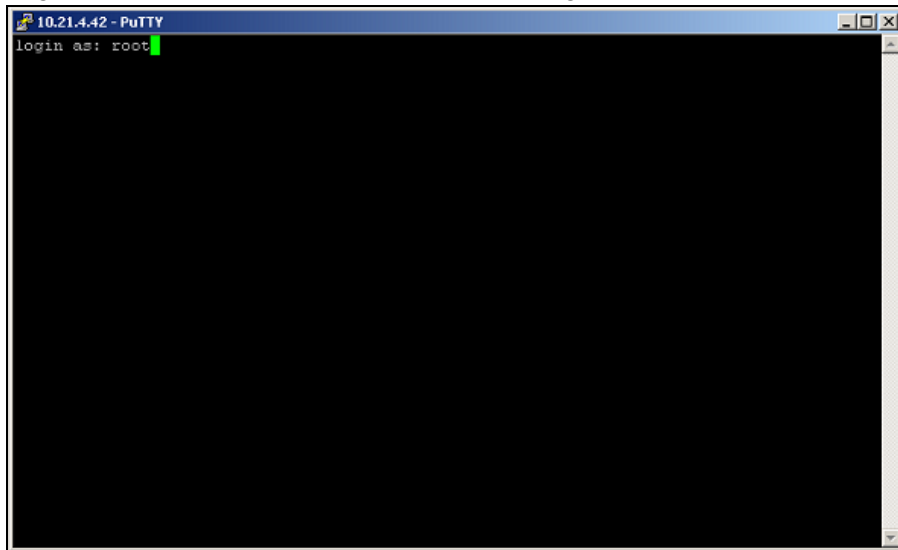
From version 7.15.0.0 onwards, there are two installation modes of AhsayOBM, online installation and offline installation. Below is the table of comparison between online installation and offline installation.

	Online Installation	Offline Installation
Version Supported	➤ From v7.3.2.0 onwards.	➤ From v7.15.0.0 onwards.
Installation Time	➤ Takes more time as it needs to download the binary and component files (80MB to 132MB depending on operating system) each time the installation is run. ➤ Online installer size is 6KB to 3.5MB depending on operating system as it contains only the initial installation package files.	➤ Takes less time as all the necessary binary and component files are already available in the offline installer and offline installer can be downloaded once but reused many times. ➤ Offline installer size is 80MB to 132MB depending on operating system as it contains all the necessary binary and component files.
Deployments	➤ Suitable for single or small amount of device installations. ➤ Suitable for sites with fast and stable internet connection as internet connection is needed each time when an installation is run. ➤ A slow internet connection will result in longer installation time and interrupted or unstable internet connection may lead to unsuccessful installation. ➤ Ensures the latest version of the product is installed.	➤ Suitable for multiple or mass device installations. ➤ Suitable for client sites with metered internet connections as once the offline installer is downloaded, internet connection is not needed each time when an installation is run. ➤ May need to update the product version after installation if an older offline installer is used.

3.1 Online Installation

3.1.1 rpm

1. Login to the Linux machine via a ssh client using the root account.



2. To download the AhsayOBM rpm installation package file from your backup service provider's website:



3. Go to the download page and right click on **Download (rpm) (Online)** button to copy the URL of the AhsayOBM installer.



4. Use the curl command to download the AhsayOBM installer from your backup service provider's website onto the Linux machine.

```
# curl -Ok https://10.120.10.12/cbs/download/obm-linux-noarch-443-10.120.10.12-https.rpm
% Total      % Received % Xferd  Average Speed   Time    Time
Time Current                        Dload  Upload   Total   Spent
Left  Speed
100 7719 100 7719    0     0  4377      0  0:00:01  0:00:01
--:--:-- 4726
```

5. Run the **rpm** command to install AhsayOBM.

```
# rpm -i obm-linux-noarch-443-10.120.10.12-https.rpm
Start install obm
Log Time: Fri May 27 16:23:04 HKT 2016
Downloading package jre-std-linux-x86-586.tar.gz...
% Total      % Received % Xferd  Average Speed   Time    Time
Time Current                        Dload  Upload   Total   Spent
Left  Speed
```



```

100 45.1M 100 45.1M 0 0 21.8M 0 0:00:02 0:00:02
--:--:-- 23.4M
Download completed
.
.
Downloading package aua-inst-nix-obm.tar.gz...
% Total % Received % Xferd Average Speed Time Time
Time Current Dload Upload Total Spent
Left Speed
100 27801 100 27801 0 0 278k 0 --:--:-- --:--:--
--:--:-- 565k
Download completed
No old application found, begin fresh install
Untar component file : /usr/local/obm/_components/app-
common.tar.gz
Untar component file : /usr/local/obm/_components/app-inst-nix-
obm.tar.gz
Untar component file : /usr/local/obm/_components/app-native-
nix-x86.tar.gz
Untar component file : /usr/local/obm/_components/app-nix-
obm.tar.gz
Untar component file : /usr/local/obm/_components/aua-
common.tar.gz
Untar component file : /usr/local/obm/_components/aua-inst-nix-
obm.tar.gz
/usr/local/obm/jvm does not exist, creating this directory
Untar JVM file : /usr/local/obm/_components/jre-std-linux-x86-
586.tar.gz
Untar component file : /usr/local/obm/_components/properties-
common.tar.gz
Untar component file : /usr/local/obm/_components/util-
common.tar.gz
Untar component file : /usr/local/obm/_components/util-nix-
obm.tar.gz
Untar jvm and component files finished
Install Application Path: /usr/local/obm
Done
Install obm finished

```

6. Check if AhsayOBM is installed properly.

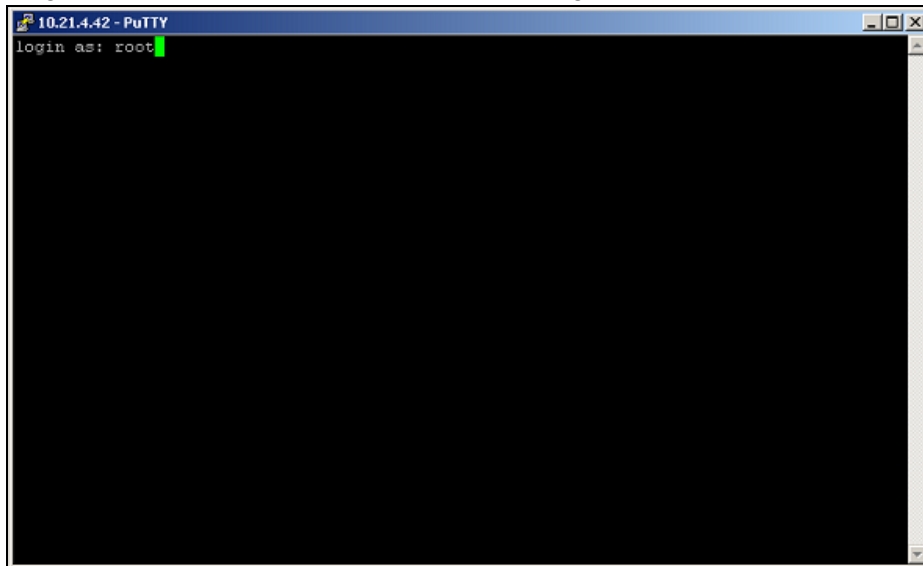
```

# rpm -qi obm
Name : obm Relocations: (not
relocatable)
Version : 7.7.0.0 Vendor: (none)
Release : 0 Build Date: Tue 24
May 2016 10:43:29 AM HKT
Install Date: Fri 27 May 2016 04:23:03 PM HKT Build Host: cxb-
cos6x.releng.dev.test
Group : Applications/System Source RPM: obm-7.7.0.0-
0.src.rpm
Size : 17252 License: GPLv2+
Signature : (none)
URL : www.ahsay.com
Summary : Ahsay Online Backup Manager
Description :
Ahsay Online Backup Manager

```

3.1.2 sh

1. Login to the Linux machine via a ssh client using the root account.



2. Create a new directory to install AhsayOBM.

```
# mkdir -p /usr/local/obm
# cd /usr/local/obm
```

3. Download the AhsayOBM sh installation script file from your backup service provider's website:



4. Go to the download page and right click on **Download (sh) (Online)** button to copy the URL of the AhsayOBM installer.



5. Use the curl command to download the AhsayOBM installer from your backup service provider's website onto the Linux machine.

```
# curl -Ok https://10.120.10.12/cbs/download/obm-nix-443-10.120.10.12-https.sh
% Total % Received % Xferd Average Speed Time Time
Time Current
Dload Upload Total Spent
Left Speed
100 17971 100 17971 0 0 9568 0 0:00:01 0:00:01
--:--:-- 9735
```

6. Add executable permissions to the AhsayOBM install script.

```
# chmod 755 obm-nix-443-10.120.10.12-https.sh
```

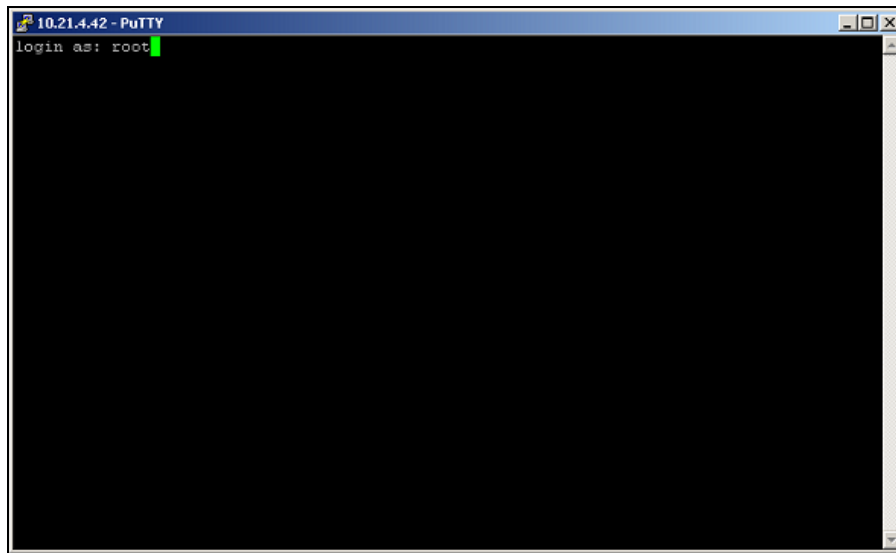
7. Execute the AhsayOBM install script. And the installation is completed when **Done** shows at the end of the script.

```
# ./obm-nix-443-10.120.10.12-https.sh

Log Time: Mon May 30 18:04:15 HKT 2016
Downloading package jre-std-linux-amd64.tar.gz...
  % Total      % Received % Xferd  Average Speed   Time    Time
Time Current
                                Dload  Upload  Total  Spent
Left  Speed
100 43.7M  100 43.7M  0   0  23.2M   0  0:00:01  0:00:01 --:--:--
28.3M
Download completed
Downloading package app-common.tar.gz...
  % Total      % Received % Xferd  Average Speed   Time    Time
Time Current
                                Dload  Upload  Total  Spent    Left  Speed
Download completed
.
.
  No old application found, begin fresh install
Untar component file : /usr/local/obm/_components/app-
common.tar.gz
Untar component file : /usr/local/obm/_components/aua-
common.tar.gz
Untar component file : /usr/local/obm/_components/aua-inst-nix-
obm.tar.gz
Untar component file : /usr/local/obm/_components/aua-native-
nix-x64.tar.gz
Untar component file : /usr/local/obm/_components/aua-nix-
obm.tar.gz
/usr/local/obm/jvm does not exist, creating this directory
Untar JVM file : /usr/local/obm/_components/jre-std-linux-
amd64.tar.gz
Untar component file : /usr/local/obm/_components/properties-
common.tar.gz
Untar component file : /usr/local/obm/_components/util-
common.tar.gz
Untar component file : /usr/local/obm/_components/util-nix-
obm.tar.gz
Untar jvm and component files finished
Install Application Path: /usr/local/obm
Done
```

3.1.3 dpkg (Ubuntu)

1. Login to the Ubuntu Linux machine via a ssh client using the root account.



2. To download the AhsayOBM deb package file from your backup service provider's website:



3. Go to the download page and right click on Ubuntu [Download] button to copy the URL of the AhsayOBM deb package installer.



4. Use the curl command to download the AhsayOBM installer from your backup service provider's website onto the Ubuntu Linux machine.

```
# curl -Ok https://10.120.10.12/cbs/download/obm-debian-noarch-443-10.120.10.12-https.deb
% Total    % Received % Xferd  Average Speed   Time    Time
      Time      Current
                                 Dload  Upload  Total  Spent
      Left  Speed
100 5768 100 5768    0     0   236      0  0:00:24  0:00:24 -
-:--:-- 237
```

5. Use dpkg -i to install AhsayOBM.

```
# dpkg -i obm-debian-noarch-443-10.120.10.12-https.deb
Selecting previously unselected package obm.
(Reading database ... 404532 files and directories currently
 installed.)
Preparing to unpack obm-debian-noarch-443-10.120.10.12-
https.deb ...
Unpacking obm (7.14.1.0) ...
Setting up obm (7.14.1.0) ...
```

```

Start install obm
Log Time: Mon Sep  4 17:01:38 HKT 2017
Host address: https://10.120.10.12:443
Downloading component file jre-std-linux-amd64.tar.gz...
  % Total    % Received % Xferd  Average Speed   Time    Time
      Time  Current
                                Dload  Upload  Total  Spent
    Left  Speed
100 43.7M 100 43.7M    0     0  260k      0  0:02:52  0:02:52 -
-:--:-- 423k
Download completed
Untar component file to /tmp/_obm/jvm
Downloading component file app-common.tar.gz...
  % Total    % Received % Xferd  Average Speed   Time    Time
      Time  Current
                                Dload  Upload  Total  Spent
    Left  Speed
.
.
.
Untar component file to /tmp/_obm
Downloading component file aua-inst-nix-obm.tar.gz...
  % Total    % Received % Xferd  Average Speed   Time    Time
      Time  Current
                                Dload  Upload  Total  Spent
    Left  Speed
100 48658 100 48658    0     0 12152      0  0:00:04  0:00:04 -
-:--:-- 12185
Download completed
Untar component file to /tmp/_obm
No old application found, begin fresh install
Install Application Path: /usr/local/obm
Done
Install obm finished

```

6. To check the status of the installation use **dpkg -s obm**

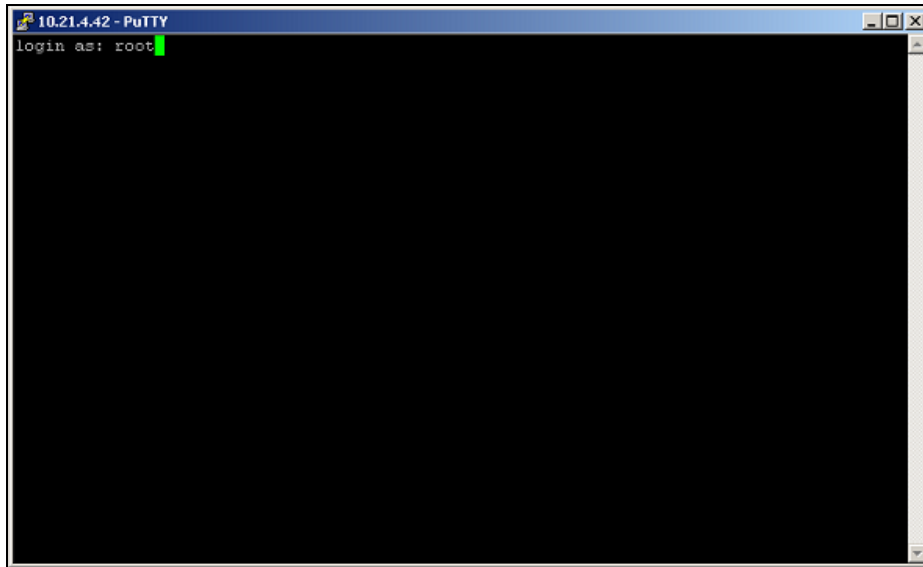
```

# dpkg -s obm
Package: obm
Status: install ok installed
Priority: optional
Section: utils
Installed-Size: 204800
Maintainer: Ahsay Systems Corporation <support-kb@ahsay.com>
Architecture: all
Version: 7.14.1.0
Description: Ahsay Online Backup Manager
Ahsay Online Backup Manager

```

3.2 Offline Installation

1. Login to the Linux machine via a ssh client using the root account.



2. Create a new directory to install AhsayOBM.

```
# mkdir -p /usr/local/obm
# cd /usr/local/obm
```

3. Download the AhsayOBM *.tar.gz file from your backup service provider's website:



4. Go to the download page and right click on **Download (sh) (Offline)** button to copy the URL of the AhsayOBM installer.



5. Use the wget command to download the AhsayOBM installer from your backup service provider's website onto the Linux machine.

```
# wget --no-check-certificate
https://10.120.10.30/cbs/download/obm-linux.tar.gz
--2017-10-17 17:30:48-- https://10.120.10.30/cbs/download/obm-
linux.tar.gz
Connecting to 10.120.10.30:443... connected.
WARNING: cannot verify 10.120.10.30's certificate, issued by
"/C=CN/ST=Hong Kong (SAR)/L=Hong Kong/O=Ahsay System
Corporation Limited/OU=Information System
Department/CN=Ahsay System Corporation
Limited/emailAddress=ca@ahsay.com":
Self-signed certificate encountered.
WARNING: certificate common name "Not Secure" doesn't match
requested host name "10.120.10.30".
HTTP request sent, awaiting response... 200 OK
Length: unspecified [application/octet-stream]
Saving to: "obm-linux.tar.gz"
```

```
[
3.01M/s    in 41s
<=>
] 138,712,080

2017-10-17 17:31:33 (3.19 MB/s) - "obm-linux.tar.gz" saved
[138712080]
```

6. Use the tar command to extract the individual components from the tarball.

```
# tar xvzf obm-linux.tar.gz
app.pkg/version.txt
app.pkg/app-common.tar.gz
app.pkg/app-native-nix-x64.tar.gz
app.pkg/app-native-nix-x86.tar.gz
app.pkg/app-nix-obm.tar.gz
app.pkg/aua-common.tar.gz
app.pkg/aua-native-nix-x64.tar.gz
app.pkg/aua-native-nix-x86.tar.gz
app.pkg/aua-nix-obm.tar.gz
app.pkg/util-common.tar.gz
app.pkg/util-nix-obm.tar.gz
app.pkg/properties-common.tar.gz
app.pkg/app-inst-nix-obm.tar.gz
app.pkg/aua-inst-nix-obm.tar.gz
app.pkg/jre-std-linux-amd64.tar.gz
app.pkg/jre-std-linux-x86-586.tar.gz
obm-linux.sh
```

7. Run the obm-linux.sh script to install AhsayOBM.

```
# sh obm-linux.sh
Log Time: Tue Oct 17 17:39:44 HKT 2017
Using package in /usr/local/obm/app.pkg
Package version: 7.15.0.0
Untar jre-std-linux-amd64.tar.gz to /tmp/_obm.171017134008/jvm
Untar app-common.tar.gz to /tmp/_obm.171017134008
Untar app-native-nix-x64.tar.gz to /tmp/_obm.171017134008
Untar app-nix-obm.tar.gz to /tmp/_obm.171017134008
Untar aua-common.tar.gz to /tmp/_obm.171017134008
Untar aua-native-nix-x64.tar.gz to /tmp/_obm.171017134008
Untar aua-nix-obm.tar.gz to /tmp/_obm.171017134008
Untar util-common.tar.gz to /tmp/_obm.171017134008
Untar util-nix-obm.tar.gz to /tmp/_obm.171017134008
Untar properties-common.tar.gz to /tmp/_obm.171017134008
Untar app-inst-nix-obm.tar.gz to /tmp/_obm.171017134008
Untar aua-inst-nix-obm.tar.gz to /tmp/_obm.171017134008
No old application found, begin fresh install
Install Application Path: /usr/local/obm
Done
```

When completed successfully AhsayOBM will be installed in the following location
/usr/local/obm.

3.3 AhsayOBM Scheduler Service Check

The AhsayOBM scheduler service is used to kick automated or scheduled backup jobs, to check if the AhsayOBM scheduler service is running use the **ps** command.

```
# ps -ef|grep java
root      7291      1 11 09:59 pts/0    00:00:02
/usr/local/obm/jvm/bin/bschJW -Xms128m -Xmx768m -
```

```
Dsun.nio.PageAlignDirectMemory=true -Djava.library.path=. -
cp ../cbs.jar cbs /usr/local/obm
root      7315  6742  0 10:00 pts/0    00:00:00 grep java
```

1. To manually start the scheduler service use the **/usr/local/obm/bin/Scheduler.sh** script.
2. To manually stop the scheduler service use the **/usr/local/obm/bin/StopScheduler.sh** script.

3.4 RunLevel Symlink Check

During the installation the following symlinks to the scheduler startup script **/etc/init.d/obmscheduler** will be created for Runlevels 2 to 5, to allow the AhsayOBM scheduler service to be started up automatically each time after the Linux machine is rebooted or restarted.

To verify the symlinks have been created correctly:

Example: Ubuntu 16.04 LTS

```
# ls -la /etc/rc[2-5].d/*obm*
lrwxrwxrwx 1 root root 24 Sep  4 17:09 /etc/rc2.d/S99obmscheduler -
> /etc/init.d/obmscheduler
lrwxrwxrwx 1 root root 24 Sep  4 17:09 /etc/rc3.d/S99obmscheduler -
> /etc/init.d/obmscheduler
lrwxrwxrwx 1 root root 24 Sep  4 17:09 /etc/rc4.d/S99obmscheduler -
> /etc/init.d/obmscheduler
lrwxrwxrwx 1 root root 24 Sep  4 17:09 /etc/rc5.d/S99obmscheduler -
> /etc/init.d/obmscheduler
#
```

Example: CentOS 6

```
# ls -la /etc/rc.d/rc[2-5].d/*obm*
lrwxrwxrwx 1 root root 24 Jan 18 16:05
/etc/rc.d/rc2.d/S99obmscheduler -> /etc/init.d/obmscheduler
lrwxrwxrwx 1 root root 24 Jan 18 16:05
/etc/rc.d/rc3.d/S99obmscheduler -> /etc/init.d/obmscheduler
lrwxrwxrwx 1 root root 24 Jan 18 16:05
/etc/rc.d/rc4.d/S99obmscheduler -> /etc/init.d/obmscheduler
lrwxrwxrwx 1 root root 24 Jan 18 16:05
/etc/rc.d/rc5.d/S99obmscheduler -> /etc/init.d/obmscheduler
#
```


4 Starting AhsayOBM

To startup AhsayOBM and connect to AhsayCBS you need to use the **RunConfigurator.sh** script, to configure the backup server URL, port and proxy server settings (if applicable) and enter the user id and password.

Please contact your backup service provider to obtain your user login and password and backup server URL settings.

```
# cd /usr/local/obm/bin
# sh RunConfigurator.sh
Startup Ahsay Online Backup Manager ...
User Configuration file not found
Create a new Configuration file at directory
[/root/.obm/config]
Login Menu (No configuration files found)
-----
(1). Login
(2). Free Trial
(3). Quit
-----
Your Choice: 1

Backup Server URL : 10.20.1.46
Port : 443
Protocol? (1) Http (2) Https : 2
Enable Proxy (Y/N) ? N
Login Name : your_username
Password : *****

Please wait while verifying user account with server...
log4j:WARN No appenders could be found for logger
(org.apache.http.impl.conn.PoolingClientConnectionManager).
log4j:WARN Please initialize the log4j system properly.
log4j:WARN See http://logging.apache.org/log4j/1.2/faq.html#noconfig
for more info.

Your account (a1) is found on server (10.20.1.46:443).
New configuration file has been created

Main Menu
-----
(1). List Backup Sets
(2). Delete Backup Set
(3). Export Backup Set Settings to XML
(4). Import Backup Set Settings from XML
(5). Generate new Backup Set Settings Template
(6). Change Language [English]
(7). Update Profile Settings
(8). Quit
-----
Your Choice:
```

5 Creating a File Backup Set

1. To create a File backup set select **(5). Generate new Backup Set Settings Template** from the menu.

```
Main Menu
-----
(1). List Backup Sets
(2). Delete Backup Set
(3). Export Backup Set Settings to XML
(4). Import Backup Set Settings from XML
(5). Generate new Backup Set Settings Template
(6). Change Language [English]
(7). Update Profile Settings
(8). Quit
-----
Your Choice: 5
```

2. Select **(1). File** to generate a File Backup Set template file to the **/root/.obm/config** directory.

```
Choose a template from a backup set type
-----
(1). File
(2). MySQL Database
(3). Oracle Database Server
(4). IBM Domino
-----
Your Choice: 1

XML file successfully exported to
/root/.obm/config/backupSet.xml

Main Menu
-----
(1). List Backup Sets
(2). Delete Backup Set
(3). Export Backup Set Settings to XML
(4). Import Backup Set Settings from XML
(5). Generate new Backup Set Settings Template
(6). Change Language [English]
(7). Update Profile Settings
(8). Quit
-----
Your Choice:
```

3. **Configuring Backup Set Settings.**

To configure the backup set setting you need to edit the **/root/.obm/config/backupSet.xml** file using a text editor, for example vi

You can either quit the RunConfigurator.sh script or open a new ssh session to edit the backupSet.xml file.

Please refer to Appendix A, B, and C for details and examples on how to create a backup sets using the **backupSet.xml** file.

Notes:

- i. Before importing the backupSet.xml file please remove any unused destinations and backup schedule settings. Otherwise the following error will be displayed **"Failed to import XML file (Reason: Value of Name is empty!)"** when trying to import the backupSet.xml file.
- ii. Setup of the following cloud storage destinations; OneDrive, OneDrive For Business, DropBox, and Google Drive are not supported in Linux CLI environment, as these cloud storage destinations require authentication using a web browser.

4. Importing the updated backupSet.xml file to AhsayOBM

After you have edited the backupSet.xml file with your chosen backup settings you need to import the settings back to AhsayOBM so they can be uploaded to AhsayCBS backup server in order to create the backup set.

For example: to create a new file backup set called "b4" with encryption enabled and default encryption settings.

```
Main Menu
-----
(1). List Backup Sets
(2). Delete Backup Set
(3). Export Backup Set Settings to XML
(4). Import Backup Set Settings from XML
(5). Generate new Backup Set Settings Template
(6). Change Language [English]
(7). Update Profile Settings
(8). Quit
-----
Your Choice: 4
-----

The backup set "b4" is not owned by this computer, do you want
to take the ownership? (Y/N) ? Y
New backup set created.
Enable Encryption (Y/N) ? Y
Use default encryption settings (Y/N) ? Y
XML imported, uploading to server...

XML successfully uploaded to server
```

5. Verify the Backup Set Settings

To verify the uploaded backup set settings are correct select **(1). List Backup Sets** and then select the backup you wish to verify, for example backup set name b4.

```
Main Menu
-----
(1). List Backup Sets
(2). Delete Backup Set
(3). Export Backup Set Settings to XML
(4). Import Backup Set Settings from XML
(5). Generate new Backup Set Settings Template
(6). Change Language [English]
(7). Update Profile Settings
(8). Quit
-----
Your Choice: 1
```

```

Select a Backup Set to show more details
-----
(1). b4
-----
Your Choice: 1

Name                : b4
Owner               : rhel6.5-4-42
Type                : FILE
Selected Source     : /Templates
Deselected Source  : /root/.obm
Deselected Source  : /usr/local/obm
Deselected Source  : /tmp
Destination Name    : CBS, Type: OBS
Encryption Key      :
qtphlg3uNVfoYkuZN0MpsPNf3ct3cCBgFI0CA1b3LC4=
Encryption Algorithm : AES
Encryption Mode     : CBC
Encryption Key Length: 256

Press Enter to continue...

```

Congratulations! The backup set configuration is now complete!

Notes:

- i. We would like to stress that it is very important to keep a separate record of your encryption key in a safe place, as you will not be able to restore your data without the correct encryption key.
- ii. If you re-install AhsayOBM or install AhsayOBM on another machine the encryption will be required for restoring data from the backup set.

6. Verify the Backup Schedule

To verify the scheduled backup settings are correct, check the AhsayOBM scheduler log (**debug.log**) located in **/root/.obm/log/Scheduler** folder.

```

# cat /root/.obm/log/Scheduler/debug.log

[2016/06/28 10:21:39][info] [b2 (1466153033224)] Start
scheduler.
[2016/06/28 10:21:39][info] [b2 (1466153033224)] Next backup
will run in 11 hr 38 min 20 sec.
[2016/06/28 10:26:39][info] Loading profile...
[2016/06/28 10:26:39][info] Loading profile from server ...
[2016/06/28 10:26:40][info] Loading profile from server ...
Completed
[2016/06/28 10:26:40][info] Loading profile... Completed
[2016/06/28 10:26:40][info] Profile is reloaded from server.
Reloading scheduler ...
[2016/06/28 10:26:40][info] [b2 (1466153033224)] Next backup
will run in 11 hr 33 min 19 sec.
[2016/06/28 10:26:40][info] Profile is reloaded from server.
Reloading scheduler ... Completed
[2016/06/28 10:31:40][info] Loading profile...
[2016/06/28 10:31:40][info] Loading profile from server ...

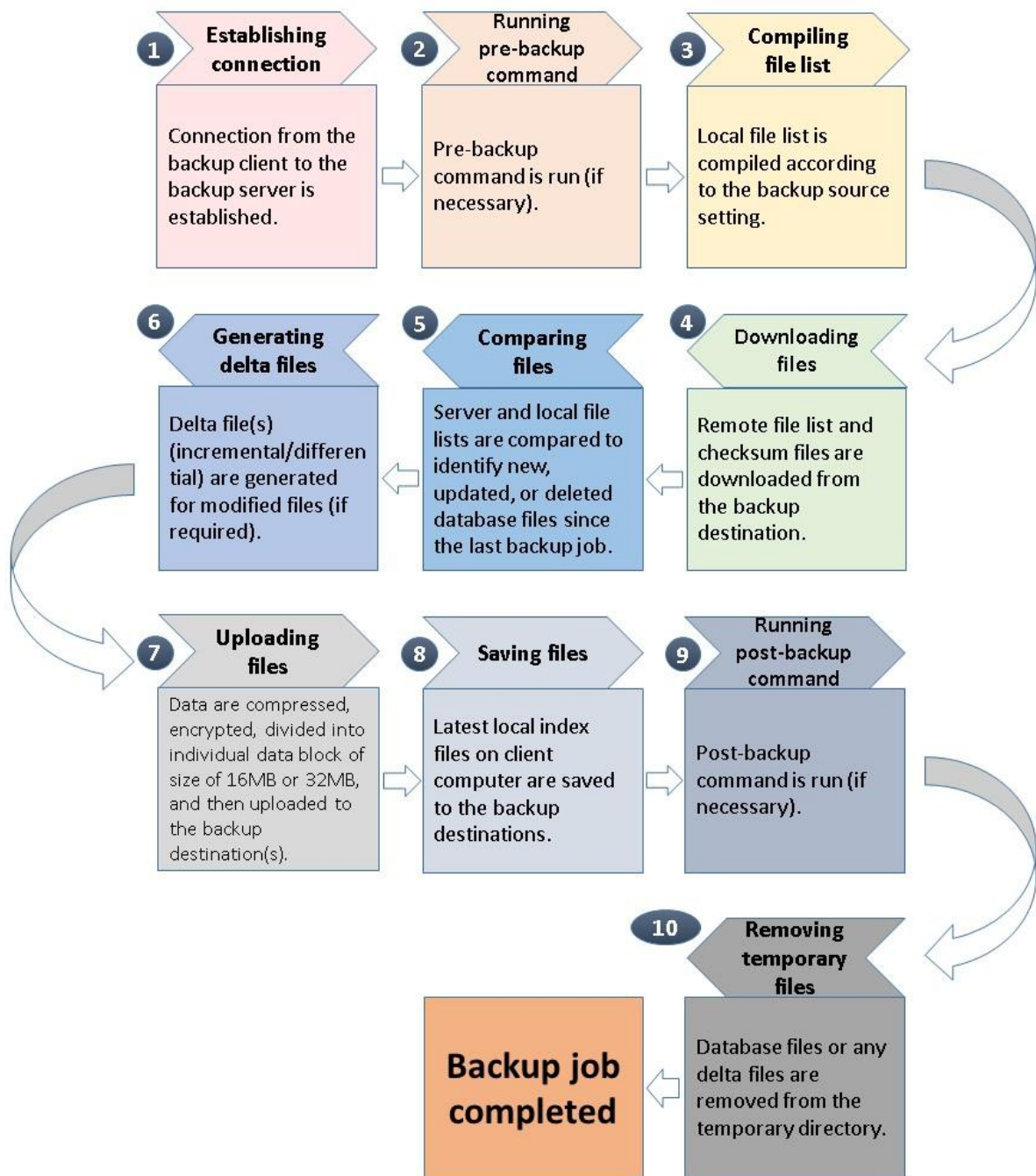
```

```
[2016/06/28 10:31:41][info] Loading profile from server ...  
Completed  
[2016/06/28 10:31:41][info] Loading profile... Completed  
[2016/06/28 10:31:41][info] Profile is reloaded from server.  
Reloading scheduler ...  
[2016/06/28 10:31:41][info] [b2 (1466153033224)] Next backup  
will run in 11 hr 28 min 18 sec.  
[2016/06/28 10:31:41][info] Profile is reloaded from server.  
Reloading scheduler ... Completed
```

The AhsayOBM scheduler service connects to the AhsayCBS backup server every 5 minutes to retrieve the latest profile updates. It will display a countdown of when the scheduled backup job(s) will be kicked off.

6 Overview on the Backup Process

The following steps are performed during a file backup job.



7 Running Backup Jobs

Use the **RunBackupSet.sh** script to start a backup job manually.

```
# cd /usr/local/obm/bin
# sh RunBackupSet.sh b4
-
Using APP_HOME      : /usr/local/obm
Using SETTING_HOME  :
Using JAVA_HOME     : /usr/local/obm/jvm
Using JAVA_EXE      : /usr/local/obm/jvm/bin/java
Using JAVA_OPTS     : -Xrs -Xms128m -Xmx768m -client -
Dsun.nio.PageAlignDirectMemory=true
Using JNI_PATH      : -Djava.library.path=.
Using CLASSPATH     : ../cb.jar
-
Running Backup Set - 'b4' ...
log4j:WARN No appenders could be found for logger
(org.apache.http.impl.conn.PoolingClientConnectionManager).
log4j:WARN Please initialize the log4j system properly.
log4j:WARN See http://logging.apache.org/log4j/1.2/faq.html#noconfig
for more info.
[2016/06/03 14:19:57] [info] [-] Start [ Linux 2.6.32-431.el6.i686
(rhel6.5-4-42), AhsayOBM v7.7.0.0 ]
[2016/06/03 14:19:58] [info] [-] Saving encrypted backup set
encryption keys to server...
[2016/06/03 14:19:58] [info] [1464934723842] Start Backup ... [In-
File Delta: Incremental]
[2016/06/03 14:19:58] [info] [1464934723842] Using Temporary
Directory /tmp/1464934723693/OBS@1464934723842
[2016/06/03 14:19:58] [info] [-] Start running pre-commands
[2016/06/03 14:19:58] [info] [-] Finished running pre-commands
[2016/06/03 14:19:58] [info] [1464934723842] Downloading server file
list...
[2016/06/03 14:19:59] [info] [1464934723842] Downloading server file
list... Completed
[2016/06/03 14:19:59] [info] [1464934723842] Reading backup source
from hard disk...
[2016/06/03 14:19:59] [info] [1464934723842] Reading backup source
from hard disk... Completed
[2016/06/03 14:19:59] [info] [1464934723842] [New Directory]... /
[2016/06/03 14:19:59] [info] [1464934723842] [New Directory]...
/Templates
[2016/06/03 14:19:59] [info] [1464934723842] [New Directory]... /root
[2016/06/03 14:19:59] [info] [1464934723842] [New File]... 100% of
"/Templates/windows-1250.txt"
[2016/06/03 14:20:00] [info] [1464934723842] [New File]... 100% of
"/Templates/windows-1251.txt"
[2016/06/03 14:20:00] [info] [1464934723842] [New File]... 100% of
"/Templates/windows-1252.txt"
[2016/06/03 14:20:00] [info] [1464934723842] [New File]... 100% of
"/Templates/windows-1253.txt"
[2016/06/03 14:20:00] [info] [1464934723842] [New File]... 100% of
"/Templates/windows-1254.txt"
[2016/06/03 14:20:00] [info] [1464934723842] [New File]... 100% of
"/Templates/windows-1255.txt"
[2016/06/03 14:20:00] [info] [1464934723842] [New File]... 100% of
"/Templates/windows-1256.txt"
[2016/06/03 14:20:00] [info] [1464934723842] [New File]... 100% of
"/Templates/windows-1257.txt"
```

```

[2016/06/03 14:20:00] [info] [1464934723842] [New File]... 100% of
"/Templates/windows-1258.txt"
[2016/06/03 14:20:00] [info] [1464934723842] [New File]... 56% of
"/Templates/windows-1361.txt"
[2016/06/03 14:20:00] [info] [1464934723842] [New File]... 100% of
"/Templates/windows-1361.txt"
[2016/06/03 14:20:00] [info] [1464934723842] [New File]... 100% of
"/Templates/windows-874.txt"
[2016/06/03 14:20:00] [info] [1464934723842] [New File]... 100% of
"/Templates/windows-932.txt"
[2016/06/03 14:20:00] [info] [1464934723842] [New File]... 61% of
"/Templates/windows-936.txt"
[2016/06/03 14:20:00] [info] [1464934723842] [New File]... 85% of
"/Templates/windows-936.txt"
[2016/06/03 14:20:00] [info] [1464934723842] [New File]... 100% of
"/Templates/windows-936.txt"
[2016/06/03 14:20:00] [info] [1464934723842] [New File]... 56% of
"/Templates/windows-949.txt"
[2016/06/03 14:20:00] [info] [1464934723842] [New File]... 100% of
"/Templates/windows-949.txt"
[2016/06/03 14:20:00] [info] [1464934723842] [New File]... 49% of
"/Templates/windows-950.txt"
[2016/06/03 14:20:00] [info] [1464934723842] [New File]... 99% of
"/Templates/windows-950.txt"
[2016/06/03 14:20:00] [info] [1464934723842] [New File]... 100% of
"/Templates/windows-950.txt"
[2016/06/03 14:20:01] [info] [1464934723842] Total New Files = 15
[2016/06/03 14:20:01] [info] [1464934723842] Total New Directories =
3
[2016/06/03 14:20:01] [info] [1464934723842] Total New Links = 0
[2016/06/03 14:20:01] [info] [1464934723842] Total Updated Files = 0
[2016/06/03 14:20:01] [info] [1464934723842] Total Attributes Changed
Files = 0
[2016/06/03 14:20:01] [info] [1464934723842] Total Deleted Files = 0
[2016/06/03 14:20:01] [info] [1464934723842] Total Deleted
Directories = 0
[2016/06/03 14:20:01] [info] [1464934723842] Total Deleted Links = 0
[2016/06/03 14:20:01] [info] [1464934723842] Total Moved Files = 0
[2016/06/03 14:20:02] [info] [1464934723842] Saving encrypted backup
file index to 1464934723693/blocks at destination CBS...
[2016/06/03 14:20:02] [info] [1464934723842] Saving encrypted backup
file index to 1464934723693/blocks/2016-06-03-14-19-39 at destination
CBS...
[2016/06/03 14:20:02] [info] [-] Start running post-commands
[2016/06/03 14:20:02] [info] [-] Finished running post-commands
[2016/06/03 14:20:05] [info] [1464934723842] Deleting temporary file
/tmp/1464934723693/OBS@1464934723842
[2016/06/03 14:20:05] [info] [1464934723842] Backup Completed
Successfully

```


8 Restoring Data

1. To restore files that have been backed up from your backup destination, you need to use the Restore.sh script by using a text editor like vi to configure the restore settings like :

- Backup Set Name -> BACKUP_SET=""
- Backup Destination -> DESTINATION=""
- Location of Restored Files -> RESTORE_TO=""
- Files/Folders to be Restored -> RESTORE_FROM=""
- Snapshot to be restored -> POINT_IN_TIME=""
- Applying the original permission to the restore files -> RESTORE_PERMISSION=""

```
# cd /usr/local/obm/bin
# vi Restore.sh

#!/bin/sh

##### Restore.sh
#####
# You can use this shell script to restore backup files using
command-line.
# Just customize the "User Define Section" below with values for
your restore
# action.
#
#####
##

##### Start: User Defined Section
#####

# ----- BACKUP_SET -----
--
# | The name or ID of the backup set that you want to restore.
# | If backup set name is not in English, please use ID instead.
# | e.g. BACKUP_SET="1119083740107"
# | or BACKUP_SET="FileBackupSet-1"
# |
# | You can leave this parameter blank if you have only 1 backup
set.
# -----
--
BACKUP_SET="b4"

# ----- DESTINATION -----
--
# The name or ID of the backup destination that you want to
restore from.
# If backup destination name is not in English, please use ID
instead.
# | e.g. DESTINATION="1740107119083"
# | or DESTINATION="Destination-1"
# |
# | You can leave this parameter blank if you have only 1
destination.
# -----
--
```

```

DESTINATION="CBS"
# ----- RESTORE_TO -----
--
# | Directory to where you want files to be restored
# | set to "" to restore files to original location
# | e.g. RESTORE_TO="/tmp"
# -----
--
RESTORE_TO="/restored_files"

# ----- RESTORE_FROM -----
-
# | File/Directory on the backup server that you would like to
# | restore
# | e.g. RESTORE_FROM="/Data"
# -----
-
RESTORE_FROM="/Templates"

# ----- POINT_IN_TIME -----
-
# The point-in-time snapshot (successful backup) that you want to
# restore |
# from the backup server. Use "Current" for the latest backup
# snapshot |
# e.g. POINT_IN_TIME="2006-10-04-12-57-13"
# or POINT_IN_TIME="Current"
#
# You can retrieve the point in time by using the
# ListBackupJob.sh
# -----
POINT_IN_TIME="Current"

# ----- RESTORE_PERMISSION -----
# | set to "Y" if you want to restore file permissions
# | set to "N" if you do NOT want to restore file permissions
# -----
RESTORE_PERMISSION="N"

# ----- SKIP_INVALID_KEY -----
# | set to "Y" if you want to skip restore file with invalid key
# | set to "N" if you do NOT want to enable sync option
# | set to "" to prompt for selection
# -----
-
SYNC_OPTION="N"

# ----- REPLACE_EXISTING_FILE -----
-
# set to "--all" to replace all existing file(s) of the same
# filename
# set to "--none" to skip all existing file(s) with the same
# filename
# set to "" to prompt for selection
# -----
-
REPLACE_EXISTING_FILE="--all"

# ----- SETTING_HOME -----
-
# | Directory to your setting home.
# | Default to ${HOME}/.obm when not set.

```

```

# | e.g. SETTING_HOME="${HOME}/.obm"
# -----
-
SETTING_HOME=""

# ----- FILTER -----
-
# Filter out what files you want to restore
# -Pattern=xxx-Type=yyy-Target=zzz
# where xxx is the filter pattern,
# yyy is the filter type, which can be one of the following:
# [exact | exactMatchCase | contains | containsMatchCase|
|
| startWith | startWithMatchCase | endWith | endWithMatchCase]
|
# zzz is the filter target, which can be one of the following:
# [toFile | toFileDir | toDir]
|
#
# e.g. FILTER="-Pattern=.txt-Type=exact-Target=toFile"
# -----
--
FILTER=""

# ----- TEMP_DIR -----
--
# | Directory to where you want to store restore files
temporarily
# | set to "" to use the temporary directory in the backup set
# | e.g. TEMP_DIR="/tmp"
# -----
TEMP_DIR="/tmp"

##### END: User Defined Section #####

```

2. After the Restore.sh script is configured the files can be restored by running the Restore.sh script.

```

# cd /usr/local/obm/bin
# sh Restore.sh
Using APP_HOME:           : /usr/local/obm
Using BACKUP_SET          : b4
Using RESTORE_FROM        : /Templates
Using RESTORE_TO          : /restored_files
Using POINT_IN_TIME       : Current
Using RESTORE_PERMISSION : N
Using TEMP_DIR            : /tmp
Filter Pattern not set, filter would not apply to restore
log4j:WARN No appenders could be found for logger
(org.apache.http.impl.conn.PoolingClientConnectionManager).
log4j:WARN Please initialize the log4j system properly.
log4j:WARN See
http://logging.apache.org/log4j/1.2/faq.html#noconfig for more
info.
[2016-06-03 14:28:34] Start [ Linux 2.6.32-431.el6.i686 (rhel6.5-
4-42), AhsayOBM v7.7.0.0 ]
[2016-06-03 14:28:34] start,"Start [ Linux 2.6.32-431.el6.i686
(rhel6.5-4-42), AhsayOBM v7.7.0.0 ]",0,0,0,,0,0
[2016-06-03 14:28:34] Initializing decrypt action...
[2016-06-03 14:28:34] Initializing decrypt action... Completed
[2016-06-03 14:28:35] Creating new directory...
"/restored_files/Templates"

```

```

[2016-06-03 14:28:35] Downloading...
"/restored_files/Templates/windows-1250.txt" (Total 9k bytes)
[2016-06-03 14:28:35] file,/restored_files/Templates/windows-
1250.txt,9525,9525,1464934586000,,1464935315573,1464935315573
[2016-06-03 14:28:35] Downloading...
"/restored_files/Templates/windows-1251.txt" (Total 8k bytes)
[2016-06-03 14:28:35] file,/restored_files/Templates/windows-
1251.txt,9200,9200,1464934586000,,1464935315583,1464935315583
[2016-06-03 14:28:35] Downloading...
"/restored_files/Templates/windows-1252.txt" (Total 9k bytes)
[2016-06-03 14:28:35] file,/restored_files/Templates/windows-
1252.txt,9350,9350,1464934586000,,1464935315589,1464935315590
[2016-06-03 14:28:35] Downloading...
"/restored_files/Templates/windows-1253.txt" (Total 8k bytes)
[2016-06-03 14:28:35] file,/restored_files/Templates/windows-
1253.txt,8933,8933,1464934586000,,1464935315596,1464935315597
[2016-06-03 14:28:35] Downloading...
"/restored_files/Templates/windows-1254.txt" (Total 9k bytes)
[2016-06-03 14:28:35] file,/restored_files/Templates/windows-
1254.txt,9341,9341,1464934586000,,1464935315601,1464935315601
[2016-06-03 14:28:35] Downloading...
"/restored_files/Templates/windows-1255.txt" (Total 8k bytes)
[2016-06-03 14:28:35] file,/restored_files/Templates/windows-
1255.txt,8299,8299,1464934586000,,1464935315605,1464935315605
[2016-06-03 14:28:35] Downloading...
"/restored_files/Templates/windows-1256.txt" (Total 8k bytes)
[2016-06-03 14:28:35] file,/restored_files/Templates/windows-
1256.txt,8652,8652,1464934586000,,1464935315610,1464935315610
[2016-06-03 14:28:35] Downloading...
"/restored_files/Templates/windows-1257.txt" (Total 8k bytes)
[2016-06-03 14:28:35] file,/restored_files/Templates/windows-
1257.txt,9213,9213,1464934586000,,1464935315614,1464935315614
[2016-06-03 14:28:35] Downloading...
"/restored_files/Templates/windows-1258.txt" (Total 8k bytes)
[2016-06-03 14:28:35] file,/restored_files/Templates/windows-
1258.txt,9203,9203,1464934586000,,1464935315619,1464935315619
[2016-06-03 14:28:35] Downloading...
"/restored_files/Templates/windows-1361.txt" (Total 339k bytes)
[2016-06-03 14:28:35] file,/restored_files/Templates/windows-
1361.txt,347941,347941,1464934586000,,1464935315625,1464935315634
[2016-06-03 14:28:35] Downloading...
"/restored_files/Templates/windows-874.txt" (Total 8k bytes)
[2016-06-03 14:28:35] file,/restored_files/Templates/windows-
874.txt,8434,8434,1464934586000,,1464935315638,1464935315639
[2016-06-03 14:28:35] Downloading...
"/restored_files/Templates/windows-932.txt" (Total 183k bytes)
[2016-06-03 14:28:35] file,/restored_files/Templates/windows-
932.txt,188080,188080,1464934586000,,1464935315642,1464935315649
[2016-06-03 14:28:35] Downloading...
"/restored_files/Templates/windows-936.txt" (Total 470k bytes)
[2016-06-03 14:28:35] file,/restored_files/Templates/windows-
936.txt,481440,481440,1464934586000,,1464935315655,1464935315668
[2016-06-03 14:28:35] Downloading...
"/restored_files/Templates/windows-949.txt" (Total 339k bytes)
[2016-06-03 14:28:35] file,/restored_files/Templates/windows-
949.txt,347360,347360,1464934586000,,1464935315672,1464935315681
[2016-06-03 14:28:35] Downloading...
"/restored_files/Templates/windows-950.txt" (Total 387k bytes)
[2016-06-03 14:28:35] file,/restored_files/Templates/windows-
950.txt,396840,396840,1464934586000,,1464935315686,1464935315697
[2016-06-03 14:28:36] Restore Completed Successfully

```

```
[2016-06-03 14:28:36] end,RESTORE_STOP_SUCCESS,0,0,0,,0,0
```

3. Verify the files are restored on the machine.

```
# ls -la /restored_files/Templates/  
total 1852  
drwxr-xr-x. 2 root root 4096 Jun 3 14:28 .  
drwxr-xr-x. 4 root root 4096 Jun 3 14:28 ..  
-rw-r--r--. 1 root root 9525 Jun 3 14:16 windows-1250.txt  
-rw-r--r--. 1 root root 9200 Jun 3 14:16 windows-1251.txt  
-rw-r--r--. 1 root root 9350 Jun 3 14:16 windows-1252.txt  
-rw-r--r--. 1 root root 8933 Jun 3 14:16 windows-1253.txt  
-rw-r--r--. 1 root root 9341 Jun 3 14:16 windows-1254.txt  
-rw-r--r--. 1 root root 8299 Jun 3 14:16 windows-1255.txt  
-rw-r--r--. 1 root root 8652 Jun 3 14:16 windows-1256.txt  
-rw-r--r--. 1 root root 9213 Jun 3 14:16 windows-1257.txt  
-rw-r--r--. 1 root root 9203 Jun 3 14:16 windows-1258.txt  
-rw-r--r--. 1 root root 347941 Jun 3 14:16 windows-1361.txt  
-rw-r--r--. 1 root root 8434 Jun 3 14:16 windows-874.txt  
-rw-r--r--. 1 root root 188080 Jun 3 14:16 windows-932.txt  
-rw-r--r--. 1 root root 481440 Jun 3 14:16 windows-936.txt  
-rw-r--r--. 1 root root 347360 Jun 3 14:16 windows-949.txt  
-rw-r--r--. 1 root root 396840 Jun 3 14:16 windows-950.txt
```

9 Technical Assistance

To contact Ahsay support representatives for technical assistance, visit the following website:

<https://www.ahsay.com/jsp/en/contact/kbQuestion.jsp>

Also use the Ahsay Knowledge Base for resource such as Hardware Compatibility List, Software Compatibility List, and other product information:

<https://forum.ahsay.com>

10 Documentation

Documentations for all Ahsay products are available at:

https://www.ahsay.com/jsp/en/home/index.jsp?pageContentKey=ahsay_downloads_documentation_guides

You can send us suggestions for improvements or report on issues in the documentation, by contacting us at:

<https://www.ahsay.com/jsp/en/contact/kbQuestion.jsp>

Please specify the specific document title as well as the change required / suggestion when contacting us.

Appendix

Appendix A File Backup Set XML Template (Raw)

```
<?xml version="1.0" encoding="UTF-8"?>
<Setting>
  <!-- This is the backup set setting -->
  <Key name="Backup Set Setting">
    <!-- Backup set type (Read Only) -->
    <Value data="FILE" name="Type" type="string" />
    <!-- Backup set name -->
    <Value data="" name="Name" type="string" />
    <!-- Temporary directory for storing backup files -->
    <Value data="" name="Temporary Working Directory"
type="string" />
    <!-- Remove temporary files after backup -->
    <!-- Y: Yes -->
    <!-- N: No -->
    <Value data="Y" name="Delete temporary files after backup"
type="boolean" />
    <!-- Select compression type -->
    <!-- GzipDefaultCompression : Normal -->
    <!-- GzipBestSpeedCompression: Fast (Compressed size larger
than normal) -->
    <!-- Leave the field blank for no compression -->
    <Value data="" name="Compression Type" type="string" />
    <!-- Backup files' permissions -->
    <!-- Y: Yes -->
    <!-- N: No -->
    <Value data="Y" name="Upload files permission" type="boolean" />
    <!-- Follow link of the backup files -->
    <!-- Y: Yes -->
    <!-- N: No -->
    <Value data="Y" name="Follow links" type="boolean" />
    <!-- This includes the files you want to backup -->
    <!-- Copy and paste the whole <Key> to add more selected
sources -->
    <Key name="Selected Source">
      <!-- Please enter your file path, e.g. /root/Documents -->
      <Value data="" name="Path" type="string" />
    </Key>
    <!-- This excludes the files from the included source -->
    <!-- Copy and paste the whole <Key> to add more deselected
sources -->
    <Key name="Deselected Source">
      <!-- Please enter your file path, e.g. /root/Documents -->
      <Value data="" name="Path" type="string" />
    </Key>
    <!-- Settings for your scheduled backups -->
    <Key name="Schedule Settings">
      <!-- Enable scheduled backup on this computer -->
      <!-- Y: Yes -->
      <!-- N: No -->
      <Value data="N" name="Enable" type="boolean" />
      <!-- Daily settings -->
      <!-- Copy and paste the whole <Key> to add more daily
schedules -->
      <Key name="Daily Schedule Settings">
        <!-- Name of schedule -->
```



```

<Value data="Daily-Schedule" name="Name" type="string"
/>
<!-- Start hour -->
<!-- 0, 1, 2... 23 -->
<Value data="21" name="Hour" type="integer" />
<!-- Start minute -->
<!-- 0, 1, 2... 59 -->
<Value data="0" name="Minute" type="integer" />
<!-- Duration of this backup in hours -->
<!-- 1, 2, 3... -->
<!-- A value of -1 means run until job finish -->
<Value data="-1" name="Duration" type="integer" />
</Key>
<!-- Weekly settings -->
<!-- Copy and paste the whole <Key> to add more weekly
schedules -->
<Key name="Weekly Schedule Settings">
  <!-- Name of schedule -->
  <Value data="Weekly-Schedule" name="Name" type="string"
/>
  <!-- Start hour -->
  <!-- 0, 1, 2... 23 -->
  <Value data="21" name="Hour" type="integer" />
  <!-- Start minute -->
  <!-- 0, 1, 2... 59 -->
  <Value data="0" name="Minute" type="integer" />
  <!-- Duration of this backup in hours -->
  <!-- 1, 2, 3... -->
  <!-- A value of -1 means run until job finish -->
  <Value data="-1" name="Duration" type="integer" />
  <!-- Backup on these days of the week -->
  <!-- Y: Yes -->
  <!-- N: No -->
  <Value data="Y" name="Sunday" type="boolean" />
  <Value data="Y" name="Monday" type="boolean" />
  <Value data="Y" name="Tuesday" type="boolean" />
  <Value data="Y" name="Wednesday" type="boolean" />
  <Value data="Y" name="Thursday" type="boolean" />
  <Value data="Y" name="Friday" type="boolean" />
  <Value data="Y" name="Saturday" type="boolean" />
</Key>
<!-- Monthly settings -->
<!-- Copy and paste the whole <Key> to add more monthly
schedules -->
<Key name="Monthly Schedule Settings">
  <!-- Name of schedule -->
  <Value data="Monthly-Schedule" name="Name"
type="string" />
  <!-- Start hour -->
  <!-- 0, 1, 2... 23 -->
  <Value data="21" name="Hour" type="integer" />
  <!-- Start minute -->
  <!-- 0, 1, 2... 59 -->
  <Value data="0" name="Minute" type="integer" />
  <!-- Duration of this backup in hours -->
  <!-- 1, 2, 3... -->
  <!-- A value of -1 means run until job finish -->
  <Value data="-1" name="Duration" type="integer" />
  <!-- Schedule date of month -->
  <!-- 1, 2, 3... 31 -->
  <!-- 32: Last -->

```

```

        <!-- Set to 0 if you want to use the format of
        occurrence + criteria, e.g. Third Wednesday, instead -->
    </Key>
    <Value data="1" name="Schedule Date" type="integer" />
    <!-- Backup occurrence -->
    <!-- First / Second / Third / Fourth / Last -->
    <!-- If "Schedule Date" is not zero, this value will be
    ignored -->
    <Value data="First" name="Occurrence" type="string" />
    <!-- Backup criteria -->
    <!-- Sunday / Monday / Tuesday / Wednesday / Thursday /
    Friday / Saturday / Weekday / Weekend -->
    <!-- If "Schedule Date" is not zero, this value will be
    ignored -->
    <Value data="Friday" name="Criteria" type="string" />
</Key>
<!-- Custom settings -->
<!-- Copy and paste the whole <Key> to add more custom
schedules -->
<Key name="Custom Schedule Settings">
    <!-- Name of schedule -->
    <Value data="Custom" name="Name" type="string" />
    <!-- Start hour -->
    <!-- 0, 1, 2... 23 -->
    <Value data="21" name="Hour" type="integer" />
    <!-- Start minute -->
    <!-- 0, 1, 2... 59 -->
    <Value data="0" name="Minute" type="integer" />
    <!-- Duration of this backup in hours -->
    <!-- 1, 2, 3... -->
    <!-- A value of -1 means run until job finish -->
    <Value data="-1" name="Duration" type="integer" />
    <!-- Date for performing custom schedule backup -->
    <!-- Input in the format of YYYY-MM-DD -->
    <Value data="2016-4-30" name="Schedule Date"
    type="string" />
</Key>
</Key>
<!-- This is the collection of destinations -->
<Key name="Destination Settings">
    <!-- Concurrency level is the number of destinations to run
    backup concurrently -->
    <!-- 2, 3, 4... -->
    <!-- 1 : Backup to destinations one by one sequentially -->
    <!-- -1: Backup to all destinations concurrently -->
    <Value data="1" name="Concurrency Level" type="integer" />
    <!-- CBS destination is where the files are backup to
    server -->
    <Key name="CBS Destination Settings">
    </Key>
    <!-- Local destination means backup files are stored in
    your computer -->
    <!-- Copy and paste the whole <Key> to add more local
    destinations -->
    <Key name="Local Destination Settings">
        <!-- Name of your destination -->
        <Value data="" name="Name" type="string" />
        <!-- Directory to store your backup files -->
        <!-- e.g. /tmp -->
        <Value data="" name="Local Path" type="string" />
    </Key>
</Key>

```

```

<!-- Aliyun destination for storing files -->
<!-- Copy and paste the whole <Key> to add more Aliyun
destinations -->
<Key name="Aliyun Destination Settings">
  <!-- Name of your destination -->
  <Value data="" name="Name" type="string" />
  <!-- Access key ID -->
  <Value data="" name="Access Key ID" type="string" />
  <!-- Access key secret -->
  <Value data="" name="Access Key Secret" type="string"
/>
  <!-- Region -->
  <!-- oss-cn-hangzhou      : Hangzhou -->
  <!-- oss-cn-shenzhen     : Shenzhen -->
  <!-- oss-cn-beijing      : Beijing -->
  <!-- oss-cn-qingdao      : Qingdao -->
  <!-- oss-cn-shanghai     : Shanghai -->
  <!-- oss-cn-hongkong     : Hong Kong -->
  <!-- oss-us-west-1       : US Silicon Valley -->
  <!-- oss-ap-southeast-1 : Asia Pacific (Singapore) -->
  <Value data="" name="Region" type="string" />
  <!-- Bucket to store backup data -->
  <!-- Leave the field empty to use default -->
  <Value data="" name="Bucket Name" type="string" />
  <!-- Select whether to use proxy -->
  <!-- Y: Yes -->
  <!-- N: No -->
  <Value data="N" name="Enable proxy during backup"
type="boolean" />
</Key>
<!-- CTYun destination for storing files -->
<!-- Copy and paste the whole <Key> to add more CTYun
destinations -->
<Key name="CTYun Destination Settings">
  <!-- Name of your destination -->
  <Value data="" name="Name" type="string" />
  <!-- Access key ID -->
  <Value data="" name="Access Key ID" type="string" />
  <!-- Access secret key -->
  <Value data="" name="Access Secret Key" type="string"
/>
  <!-- Select whether to use proxy -->
  <!-- Y: Yes -->
  <!-- N: No -->
  <Value data="N" name="Enable proxy during backup"
type="boolean" />
</Key>
<!-- AmazonS3 destination for storing files -->
<!-- Copy and paste the whole <Key> to add more AmazonS3
destinations -->
<Key name="AmazonS3 Destination Settings">
  <!-- Name of your destination -->
  <Value data="" name="Name" type="string" />
  <!-- Access key ID -->
  <Value data="" name="Access Key ID" type="string" />
  <!-- Secret access key -->
  <Value data="" name="Secret Access Key" type="string"
/>
  <!-- Location -->
  <!-- us-east-1          : US East (N. Virginia) -->
  <!-- us-west-2          : US West (Oregon) -->

```

```

        <!-- us-west-1      : US West (Northern California) -->
        <!-- eu-west-1      : EU (Ireland) -->
        <!-- eu-central-1   : EU (Frankfurt) -->
        <!-- ap-southeast-1 : Asia Pacific (Singapore) -->
        <!-- ap-northeast-1 : Asia Pacific (Tokyo) -->
        <!-- ap-southeast-2 : Asia Pacific (Sydney) -->
        <!-- sa-east-1      : South America (Sao Paulo) -->
        <!-- us-gov-west-1  : AWS GovCloud (US) -->
        <!-- cn-north-1     : China (Beijing) -->
        <!-- ap-northeast-2 : Asia Pacific (Seoul) -->
        <Value data="" name="Location" type="string" />
        <!-- Select whether to use proxy -->
        <!-- Y: Yes -->
        <!-- N: No -->
        <Value data="N" name="Enable proxy during backup"
            type="boolean" />
    </Key>
    <!-- AWSCompatible destination for storing files -->
    <!-- Copy and paste the whole <Key> to add more
    AWSCompatible destinations -->
    <Key name="AWSCompatible Destination Settings">
        <!-- Name of your destination -->
        <Value data="" name="Name" type="string" />
        <!-- Host -->
        <Value data="" name="Host" type="string" />
        <!-- Port -->
        <Value data="0" name="Port" type="integer" />
        <!-- Access key ID -->
        <Value data="" name="Access Key ID" type="string" />
        <!-- Secret access key -->
        <Value data="" name="Secret Access Key" type="string"
        />
        <!-- Bucket to store backup data (please create this
        bucket manually first) -->
        <Value data="" name="Bucket Name" type="string" />
        <!-- Select whether to use proxy -->
        <!-- Y: Yes -->
        <!-- N: No -->
        <Value data="N" name="Enable proxy during backup"
            type="boolean" />
    </Key>
    <!-- GoogleCloudStorage destination for storing files -->
    <!-- Copy and paste the whole <Key> to add more
    GoogleCloudStorage destinations -->
    <Key name="GoogleCloudStorage Destination Settings">
        <!-- Name of your destination -->
        <Value data="" name="Name" type="string" />
        <!-- Access key -->
        <Value data="" name="Access Key" type="string" />
        <!-- Secret -->
        <Value data="" name="Secret" type="string" />
        <!-- Location -->
        <!-- US   : United States -->
        <!-- EU   : European Union -->
        <!-- ASIA: Asia -->
        <Value data="" name="Location" type="string" />
        <!-- Select whether to use proxy -->
        <!-- Y: Yes -->
        <!-- N: No -->
        <Value data="N" name="Enable proxy during backup"
            type="boolean" />

```

```

</Key>
<!-- Windows Azure destination for storing files -->
<!-- Copy and paste the whole <Key> to add more Windows
Azure destinations -->
<Key name="Windows Azure Destination Settings">
  <!-- Name of your destination -->
  <Value data="" name="Name" type="string" />
  <!-- Storage account name -->
  <Value data="" name="Storage Account Name"
  type="string" />
  <!-- Access key -->
  <Value data="" name="Access Key" type="string" />
</Key>
<!-- Rackspace destination for storing files -->
<!-- Copy and paste the whole <Key> to add more Rackspace
destinations -->
<Key name="Rackspace Destination Settings">
  <!-- Name of your destination -->
  <Value data="" name="Name" type="string" />
  <!-- Username -->
  <Value data="" name="Username" type="string" />
  <!-- API key -->
  <Value data="" name="API Key" type="string" />
  <!-- Select whether to use proxy -->
  <!-- Y: Yes -->
  <!-- N: No -->
  <Value data="N" name="Enable proxy during backup"
  type="boolean" />
</Key>
<!-- OpenStack destination for storing files -->
<!-- Copy and paste the whole <Key> to add more OpenStack
destinations -->
<Key name="OpenStack Destination Settings">
  <!-- Name of your destination -->
  <Value data="" name="Name" type="string" />
  <!-- Host -->
  <Value data="" name="Host" type="string" />
  <!-- Keystone public port -->
  <Value data="5000" name="Keystone Public Port"
  type="integer" />
  <!-- Username -->
  <Value data="" name="Username" type="string" />
  <!-- Password -->
  <Value data="" name="Password" type="string" />
  <!-- Select whether to use proxy -->
  <!-- Y: Yes -->
  <!-- N: No -->
  <Value data="N" name="Enable proxy during backup"
  type="boolean" />
</Key>
<!-- FTP destination for storing files -->
<!-- Copy and paste the whole <Key> to add more FTP
destinations -->
<Key name="FTP Destination Settings">
  <!-- Name of your destination -->
  <Value data="" name="Name" type="string" />
  <!-- Host -->
  <Value data="" name="Host" type="string" />
  <!-- Port -->
  <Value data="0" name="Port" type="integer" />
  <!-- Username -->

```

```

        <Value data="" name="Username" type="string" />
        <!-- Password -->
        <Value data="" name="Password" type="string" />
        <!-- FTP directory to store backup data -->
        <!-- Leave the field empty to store to ~/Ahsay -->
        <Value data="" name="Directory" type="string" />
        <!-- Select whether to use proxy -->
        <!-- Y: Yes -->
        <!-- N: No -->
        <Value data="N" name="Enable proxy during backup"
            type="boolean" />
    </Key>
</Key>
<!-- This shows the in-file delta setting -->
<Key name="In-file Delta Setting">
    <!-- Enable in-file delta backup -->
    <!-- Y: Yes -->
    <!-- N: No -->
    <Value data="Y" name="Enable" type="boolean" />
    <!-- Default in-file delta type -->
    <!-- D: Differential -->
    <!-- I: Incremental -->
    <Value data="" name="Default Delta Type" type="string" />
</Key>
</Key>
</Setting>

```

Appendix B File Backup Set XML Template (with explanation)

This appendix explains all configurable items with their available options, highlighted in red, in this file backup set XML scripts.

Backup Set Setting

The following items define the basic configurations of the file backup set.

- ❶ **Backup set type** – enter the backup set type, for instance, File, MySQL etc.
- ❷ **Backup set name** – name your backup set.
- ❸ **Temporary directory for storing backup files** – Enter the directory path where you would like to have the backup files stored temporarily. The temporary directory is used for various purposes, such as storage of temporary spooled file (for database specific backup type in AhsayOBM), remote file list, local file list, temporary delta file and other files of temporary nature.
- ❹ **Remove temporary files after backup** – choose whether to remove temporary files after you finish backup.
- ❺ **Select compression type** – choose the backup compression mode among Normal, Fast or No compression.
- ❻ **Backup files' permissions** – choose whether to backup operating system file permission of the data selected as backup source.
- ❼ **Follow link of the backup files** – choose whether to follow an NTFS junction point or NTFS symbolic link during backup. When the follow link option is enabled, not only is the symbolic link or junction point backed up, but directories and files that the junction point links to will also be backed up.

```
<?xml version="1.0" encoding="UTF-8"?>
<Setting>
  <!-- This is the backup set setting -->
  <Key name="Backup Set Setting">
    <!-- Backup set type (Read Only) -->
    <Value data="FILE" name="Type" type="string" />
    <!-- Backup set name -->
    <Value data="" name="Name" type="string" />
    <!-- Temporary directory for storing backup files -->
    <Value data="" name="Temporary Working Directory"
    type="string" />
    <!-- Remove temporary files after backup -->
    <!-- Y: Yes -->
    <!-- N: No -->
    <Value data="Y" name="Delete temporary files after backup"
    type="boolean" />
    <!-- Select compression type -->
    <!-- GzipDefaultCompression : Normal -->
    <!-- GzipBestSpeedCompression: Fast (Compressed size larger
    than normal) -->
    <!-- Leave the field blank for no compression -->
    <Value data="" name="Compression Type" type="string" />
    <!-- Backup files' permissions -->
    <!-- Y: Yes -->
    <!-- N: No -->
    <Value data="Y" name="Upload files permission" type="boolean" />
```

```
<!-- Follow link of the backup files -->
<!-- Y: Yes -->
<!-- N: No -->
<Value data="Y" name="Follow links" type="boolean" />
```

Selected Source

- Enter the file path where the files you would like to backup are located.

```
<!-- This includes the files you want to backup -->
<!-- Copy and paste the whole <Key> to add more selected
sources -->
<Key name="Selected Source">
  <!-- Please enter your file path, e.g. /root/Documents -->
  <Value data="" name="Path" type="string" />
</Key>
```

Deselected Source

- Enter the file path where files you would like to exclude from the backup.

```
<!-- This excludes the files from the included source -->
<!-- Copy and paste the whole <Key> to add more deselected
sources -->
<Key name="Deselected Source">
  <!-- Please enter your file path, e.g. /root/Documents -->
  <Value data="" name="Path" type="string" />
</Key>
```

Schedule Settings

- Choose whether you would like backup jobs to be run at the scheduled time you set.

```
<!-- Settings for your scheduled backups -->
<Key name="Schedule Settings">
  <!-- Enable scheduled backup on this computer -->
  <!-- Y: Yes -->
  <!-- N: No -->
  <Value data="N" name="Enable" type="boolean" />
```

Daily Schedule Settings

Set backup jobs to run daily at the time you specified.

- Start hour** – the starting hour of the backup, from 0-23.
- Start minute** – the starting minute of the backup, from 0-59.
- Duration of this backup in hours** – for how long, in hours, you would like this backup to run. Set to -1 if you would like the backup job to run until it finishes.

```
<!-- Daily settings -->
<!-- Copy and paste the whole <Key> to add more daily
schedules -->
<Key name="Daily Schedule Settings">
  <!-- Name of schedule -->
  <Value data="Daily-Schedule" name="Name" type="string"
  />
  <!-- Start hour -->
  <!-- 0, 1, 2... 23 -->
  <Value data="21" name="Hour" type="integer" />
  <!-- Start minute -->
  <!-- 0, 1, 2... 59 -->
```



```

    <Value data="0" name="Minute" type="integer" />
    <!-- Duration of this backup in hours -->
    <!-- 1, 2, 3... -->
    <!-- A value of -1 means run until job finish -->
    <Value data="-1" name="Duration" type="integer" />
</Key>

```

Weekly Schedule Settings

Set backup jobs to run weekly at the time you specified.

- 🔹 **Start hour** – the starting hour of the backup, from 0-23.
- 🔹 **Start minute** – the starting minute of the backup, from 0-59.
- 🔹 **Duration of this backup in hours** – the duration you would like this backup to perform, in hours. Set to -1 if you would like the backup job to run until it finishes.
- 🔹 **Backup on these days of the week** – choose to enable or disable backup on each day in week.

```

<!-- Weekly settings -->
<!-- Copy and paste the whole <Key> to add more weekly
schedules -->
<Key name="Weekly Schedule Settings">
    <!-- Name of schedule -->
    <Value data="Weekly-Schedule" name="Name" type="string"
    />
    <!-- Start hour -->
    <!-- 0, 1, 2... 23 -->
    <Value data="21" name="Hour" type="integer" />
    <!-- Start minute -->
    <!-- 0, 1, 2... 59 -->
    <Value data="0" name="Minute" type="integer" />
    <!-- Duration of this backup in hours -->
    <!-- 1, 2, 3... -->
    <!-- A value of -1 means run until job finish -->
    <Value data="-1" name="Duration" type="integer" />
    <!-- Backup on these days of the week -->
    <!-- Y: Yes -->
    <!-- N: No -->
    <Value data="Y" name="Sunday" type="boolean" />
    <Value data="Y" name="Monday" type="boolean" />
    <Value data="Y" name="Tuesday" type="boolean" />
    <Value data="Y" name="Wednesday" type="boolean" />
    <Value data="Y" name="Thursday" type="boolean" />
    <Value data="Y" name="Friday" type="boolean" />
    <Value data="Y" name="Saturday" type="boolean" />
</Key>

```

Monthly Schedule Settings

Set backup jobs to run monthly at the time you specified.

- 🔹 **Start hour** – the starting hour of the backup, from 0-23.
- 🔹 **Start minute** – the starting minute of the backup, from 0-59.
- 🔹 **Duration of this backup in hours** – the duration you would like this backup to perform, in hours. Set to -1 if you would like the backup job to run until it finishes.

- **Schedule date of month** – set exact date in a month when you would like the backup to perform. Set to 0 if you would like the backup performed in a specified occurrence + criteria format, e.g. the third Wednesday in month.
- **Backup [Occurrence + Criteria] format**
You can set the backup to perform on a specified week (**Occurrence, First / Second / Third / Last**) and on a specified day of the week (**Criteria, Sun thru Sat**), for instance, the third Wednesday in a month.
 - **Backup occurrence** – set the week, i.e., First / Second / Third / Last. If you have set an exact date in the previous “Schedule date of month” configuration, this setting will be ignored.
 - **Backup criteria** – set a day of the week, i.e., Sunday thru Saturday. If you have set an exact date in the previous “Schedule date of month” configuration, this setting will be ignored.

```

<!-- Monthly settings -->
<!-- Copy and paste the whole <Key> to add more monthly
schedules -->
<Key name="Monthly Schedule Settings">
  <!-- Name of schedule -->
  <Value data="Monthly-Schedule" name="Name"
type="string" />
  <!-- Start hour -->
  <!-- 0, 1, 2... 23 -->
  <Value data="21" name="Hour" type="integer" />
  <!-- Start minute -->
  <!-- 0, 1, 2... 59 -->
  <Value data="0" name="Minute" type="integer" />
  <!-- Duration of this backup in hours -->
  <!-- 1, 2, 3... -->
  <!-- A value of -1 means run until job finish -->
  <Value data="-1" name="Duration" type="integer" />
  <!-- Schedule date of month -->
  <!-- 1, 2, 3... 31 -->
  <!-- 32: Last -->
  <!-- Set to 0 if you want to use the format of
occurrence + criteria, e.g. Third Wednesday, instead --
>
  <Value data="1" name="Schedule Date" type="integer" />
  <!-- Backup occurrence -->
  <!-- First / Second / Third / Fourth / Last -->
  <!-- If "Schedule Date" is not zero, this value will be
ignored -->
  <Value data="First" name="Occurrence" type="string" />
  <!-- Backup criteria -->
  <!-- Sunday / Monday / Tuesday / Wednesday / Thursday /
Friday / Saturday / Weekday / Weekend -->
  <!-- If "Schedule Date" is not zero, this value will be
ignored -->
  <Value data="Friday" name="Criteria" type="string" />
</Key>

```

Custom Schedule Settings

Set backup jobs to run at the date and time you specified.

- **Start hour** – the starting hour of the backup, from 0-23.
- **Start minute** – the starting minute of the backup, from 0-59.

- **Duration of this backup in hours** – the duration you would like this backup to perform, in hours. Set to -1 if you would like the backup job to run until it finishes.
- **Date for performing custom schedule backup** - enter a specific date when you would like the backup to perform. The date format should be in YYYY-MM-DD.

```

<!-- Custom settings -->
<!-- Copy and paste the whole <Key> to add more custom
schedules -->
<Key name="Custom Schedule Settings">
  <!-- Name of schedule -->
  <Value data="Custom" name="Name" type="string" />
  <!-- Start hour -->
  <!-- 0, 1, 2... 23 -->
  <Value data="21" name="Hour" type="integer" />
  <!-- Start minute -->
  <!-- 0, 1, 2... 59 -->
  <Value data="0" name="Minute" type="integer" />
  <!-- Duration of this backup in hours -->
  <!-- 1, 2, 3... -->
  <!-- A value of -1 means run until job finish -->
  <Value data="-1" name="Duration" type="integer" />
  <!-- Date for performing custom schedule backup -->
  <!-- Input in the format of YYYY-MM-DD -->
  <Value data="2016-4-30" name="Schedule Date"
type="string" />
</Key>
</Key>

```

Destination Settings

- **Concurrency level** – set the number of destinations to run backup job concurrently
- **CBS Destination Settings** – this option allows backup files to be stored on the server
- **Local Destination Settings** – this option allows backup files to be stored in your local computer. Enter the directory path where you would like the backup files to be stored.

```

<!-- This is the collection of destinations -->
<Key name="Destination Settings">
  <!-- Concurrency level is the number of destinations to run
backup concurrently -->
  <!-- 2, 3, 4... -->
  <!-- 1 : Backup to destinations one by one sequentially -->
  <!-- -1: Backup to all destinations concurrently -->
  <Value data="1" name="Concurrency Level" type="integer" />
  <!-- CBS destination is where the files are backup to
server -->
  <Key name="CBS Destination Settings">
  </Key>
  <!-- Local destination means backup files are stored in
your computer -->
  <!-- Copy and paste the whole <Key> to add more local
destinations -->
  <Key name="Local Destination Settings">
    <!-- Name of your destination -->
    <Value data="" name="Name" type="string" />
    <!-- Directory to store your backup files -->
    <!-- e.g. /tmp -->
    <Value data="" name="Local Path" type="string" />
  </Key>
</Key>

```

- **Aliyun Destination Settings** – if you are using Aliyun as your backup destination, configure the login and network settings in this section.

```
<!-- Aliyun destination for storing files -->
<!-- Copy and paste the whole <Key> to add more Aliyun
destinations -->
<Key name="Aliyun Destination Settings">
  <!-- Name of your destination -->
  <Value data="" name="Name" type="string" />
  <!-- Access key ID -->
  <Value data="" name="Access Key ID" type="string" />
  <!-- Access key secret -->
  <Value data="" name="Access Key Secret" type="string"
/>
  <!-- Region -->
  <!-- oss-cn-hangzhou      : Hangzhou -->
  <!-- oss-cn-shenzhen    : Shenzhen -->
  <!-- oss-cn-beijing      : Beijing -->
  <!-- oss-cn-qingdao      : Qingdao -->
  <!-- oss-cn-shanghai     : Shanghai -->
  <!-- oss-cn-hongkong     : Hong Kong -->
  <!-- oss-us-west-1       : US Silicon Valley -->
  <!-- oss-ap-southeast-1 : Asia Pacific (Singapore) -->
  <Value data="" name="Region" type="string" />
  <!-- Bucket to store backup data -->
  <!-- Leave the field empty to use default -->
  <Value data="" name="Bucket Name" type="string" />
  <!-- Select whether to use proxy -->
  <!-- Y: Yes -->
  <!-- N: No -->
  <Value data="N" name="Enable proxy during backup"
type="boolean" />
</Key>
```

- **CTYun Destination Settings** – if you are using CTYun as your backup destination, configure the login and network settings in this section.

```
<!-- CTYun destination for storing files -->
<!-- Copy and paste the whole <Key> to add more CTYun
destinations -->
<Key name="CTYun Destination Settings">
  <!-- Name of your destination -->
  <Value data="" name="Name" type="string" />
  <!-- Access key ID -->
  <Value data="" name="Access Key ID" type="string" />
  <!-- Access secret key -->
  <Value data="" name="Access Secret Key" type="string"
/>
  <!-- Select whether to use proxy -->
  <!-- Y: Yes -->
  <!-- N: No -->
  <Value data="N" name="Enable proxy during backup"
type="boolean" />
</Key>
```

- **AmazonS3 Destination Settings** – if you are using AmazonS3 as your backup destination, configure the login and network settings in this section.

```
<!-- AmazonS3 destination for storing files -->
<!-- Copy and paste the whole <Key> to add more AmazonS3
destinations -->
```

```

<Key name="AmazonS3 Destination Settings">
  <!-- Name of your destination -->
  <Value data="" name="Name" type="string" />
  <!-- Access key ID -->
  <Value data="" name="Access Key ID" type="string" />
  <!-- Secret access key -->
  <Value data="" name="Secret Access Key" type="string"
  />
  <!-- Location -->
  <!-- us-east-1      : US East (N. Virginia) -->
  <!-- us-west-2      : US West (Oregon) -->
  <!-- us-west-1      : US West (Northern California) -->
  <!-- eu-west-1       : EU (Ireland) -->
  <!-- eu-central-1    : EU (Frankfurt) -->
  <!-- ap-southeast-1 : Asia Pacific (Singapore) -->
  <!-- ap-northeast-1 : Asia Pacific (Tokyo) -->
  <!-- ap-southeast-2 : Asia Pacific (Sydney) -->
  <!-- sa-east-1       : South America (Sao Paulo) -->
  <!-- us-gov-west-1  : AWS GovCloud (US) -->
  <!-- cn-north-1      : China (Beijing) -->
  <!-- ap-northeast-2 : Asia Pacific (Seoul) -->
  <Value data="" name="Location" type="string" />
  <!-- Select whether to use proxy -->
  <!-- Y: Yes -->
  <!-- N: No -->
  <Value data="N" name="Enable proxy during backup"
  type="boolean" />
</Key>

```

- **AWSCompatible Destination Settings** – if you are using AWSCompatible as your backup destination, configure the login and network settings in this section.

```

<!-- AWSCompatible destination for storing files -->
<!-- Copy and paste the whole <Key> to add more
AWSCompatible destinations -->
<Key name="AWSCompatible Destination Settings">
  <!-- Name of your destination -->
  <Value data="" name="Name" type="string" />
  <!-- Host -->
  <Value data="" name="Host" type="string" />
  <!-- Port -->
  <Value data="0" name="Port" type="integer" />
  <!-- Access key ID -->
  <Value data="" name="Access Key ID" type="string" />
  <!-- Secret access key -->
  <Value data="" name="Secret Access Key" type="string"
  />
  <!-- Bucket to store backup data (please create this
  bucket manually first) -->
  <Value data="" name="Bucket Name" type="string" />
  <!-- Select whether to use proxy -->
  <!-- Y: Yes -->
  <!-- N: No -->
  <Value data="N" name="Enable proxy during backup"
  type="boolean" />
</Key>

```

- **GoogleCloudStorage Destination Settings** – if you are using GoogleCloudStorage as your backup destination, configure the login and network settings in this section.

```
<!-- GoogleCloudStorage destination for storing files -->
<!-- Copy and paste the whole <Key> to add more
GoogleCloudStorage destinations -->
<Key name="GoogleCloudStorage Destination Settings">
  <!-- Name of your destination -->
  <Value data="" name="Name" type="string" />
  <!-- Access key -->
  <Value data="" name="Access Key" type="string" />
  <!-- Secret -->
  <Value data="" name="Secret" type="string" />
  <!-- Location -->
  <!-- US : United States -->
  <!-- EU : European Union -->
  <!-- ASIA: Asia -->
  <Value data="" name="Location" type="string" />
  <!-- Select whether to use proxy -->
  <!-- Y: Yes -->
  <!-- N: No -->
  <Value data="N" name="Enable proxy during backup"
type="boolean" />
</Key>
```

- **Windows Azure Destination Settings** – if you are using Windows Azure as your backup destination, configure the login and network settings in this section.

```
<!-- Windows Azure destination for storing files -->
<!-- Copy and paste the whole <Key> to add more Windows
Azure destinations -->
<Key name="Windows Azure Destination Settings">
  <!-- Name of your destination -->
  <Value data="" name="Name" type="string" />
  <!-- Storage account name -->
  <Value data="" name="Storage Account Name"
type="string" />
  <!-- Access key -->
  <Value data="" name="Access Key" type="string" />
</Key>
<!-- Rackspace destination for storing files -->
<!-- Copy and paste the whole <Key> to add more Rackspace
destinations -->
<Key name="Rackspace Destination Settings">
  <!-- Name of your destination -->
  <Value data="" name="Name" type="string" />
  <!-- Username -->
  <Value data="" name="Username" type="string" />
  <!-- API key -->
  <Value data="" name="API Key" type="string" />
  <!-- Select whether to use proxy -->
  <!-- Y: Yes -->
  <!-- N: No -->
  <Value data="N" name="Enable proxy during backup"
type="boolean" />
</Key>
```

- **OpenStack Destination Settings** – if you are using OpenStack as your backup destination, configure the login and network settings in this section.

```
<!-- OpenStack destination for storing files -->
<!-- Copy and paste the whole <Key> to add more OpenStack
destinations -->
<Key name="OpenStack Destination Settings">
  <!-- Name of your destination -->
  <Value data="" name="Name" type="string" />
  <!-- Host -->
  <Value data="" name="Host" type="string" />
  <!-- Keystone public port -->
  <Value data="5000" name="Keystone Public Port"
type="integer" />
  <!-- Username -->
  <Value data="" name="Username" type="string" />
  <!-- Password -->
  <Value data="" name="Password" type="string" />
  <!-- Select whether to use proxy -->
  <!-- Y: Yes -->
  <!-- N: No -->
  <Value data="N" name="Enable proxy during backup"
type="boolean" />
</Key>
```

- **FTP Destination Settings** – if you are using FTP as your backup destination, configure the login and network settings in this section.

```
<!-- FTP destination for storing files -->
<!-- Copy and paste the whole <Key> to add more FTP
destinations -->
<Key name="FTP Destination Settings">
  <!-- Name of your destination -->
  <Value data="" name="Name" type="string" />
  <!-- Host -->
  <Value data="" name="Host" type="string" />
  <!-- Port -->
  <Value data="0" name="Port" type="integer" />
  <!-- Username -->
  <Value data="" name="Username" type="string" />
  <!-- Password -->
  <Value data="" name="Password" type="string" />
  <!-- FTP directory to store backup data -->
  <!-- Leave the field empty to store to ~/Ahsay -->
  <Value data="" name="Directory" type="string" />
  <!-- Select whether to use proxy -->
  <!-- Y: Yes -->
  <!-- N: No -->
  <Value data="N" name="Enable proxy during backup"
type="boolean" />
  </Key>
</Key>
```

In-file delta setting

In-File delta technology is an advanced data block matching algorithm with the intelligence to pick up changes (delta) of file content between two files. You can choose between **Differential** and **Incremental** in this setting.

- **Differential** - The delta is generated by comparing with the last uploaded full file only. Delta generated with this method will grow daily and uses more bandwidth. However, for restoration, the full file and a single delta is required to be restored and merged.
- **Incremental** - The delta is generated by comparing with the last uploaded full or delta file. Delta generated with this method is smaller and uses the least bandwidth. However, for restoration, the full file and all deltas chain up to the required point-in-time are required to be restored and merged. This is prone to data lost (e.g. broken delta chain).

```
<!-- This shows the in-file delta setting -->
<Key name="In-file Delta Setting">
  <!-- Enable in-file delta backup -->
  <!-- Y: Yes -->
  <!-- N: No -->
  <Value data="Y" name="Enable" type="boolean" />
  <!-- Default in-file delta type -->
  <!-- D: Differential -->
  <!-- I: Incremental -->
  <Value data="" name="Default Delta Type" type="string" />
</Key>
</Setting>
```


Appendix C Example File Backup Set Setting

Below are the configuration parameters of the file backup set sample.

Backup Set Name	b4
Temporary Working Directory	/tmp
Remove temporary files after backup	Yes
Compress Type	Fast
Backup file permissions	Yes
Follow Sym link	Yes
Daily schedule	10:00 PM run until completed
Destination	CBS
Backup Source	/Templates
Exclude	/root/.obm, /usr/local/obm, /tmp

***Configurable items are highlighted in red.**

```
<?xml version="1.0" encoding="UTF-8"?>
<Setting>
  <!-- This is the backup set setting -->
  <Key name="Backup Set Setting">
    <!-- Backup set type (Read Only) -->
    <Value data="FILE" name="Type" type="string" />
    <!-- Backup set name -->
    <Value data="b4" name="Name" type="string" />
    <!-- Temporary directory for storing backup files -->
    <Value data="/tmp" name="Temporary Working Directory" type="string" />
    <!-- Remove temporary files after backup -->
    <!-- Y: Yes -->
    <!-- N: No -->
    <Value data="Y" name="Delete temporary files after backup" type="boolean" />
    <!-- Select compression type -->
    <!-- GzipDefaultCompression : Normal -->
    <!-- GzipBestSpeedCompression: Fast (Compressed size larger than normal) -->
    <!-- Leave the field blank for no compression -->
    <Value data="GzipBestSpeedCompression" name="Compression Type" type="string" />
    <!-- Backup files' permissions -->
    <!-- Y: Yes -->
    <!-- N: No -->
    <Value data="Y" name="Upload files permission" type="boolean" />
    <!-- Follow link of the backup files -->
    <!-- Y: Yes -->
    <!-- N: No -->
    <Value data="Y" name="Follow links" type="boolean" />
    <!-- This includes the files you want to backup -->
    <!-- Copy and paste the whole <Key> to add more selected sources -->
    <Key name="Selected Source">
      <!-- Please enter your file path, e.g. /root/Documents -->
      <Value data="/Templates" name="Path" type="string" />
    </Key>
    <!-- This excludes the files from the included source -->
    <!-- Copy and paste the whole <Key> to add more deselected sources -->
    <Key name="Deselected Source">
      <!-- Please enter your file path, e.g. /root/Documents -->
```

```

        <Value data="/root/.obm" name="Path" type="string" />
    </Key>
    <Key name="Deselected Source">
        <!-- Please enter your file path, e.g. /root/Documents -->
        <Value data="/usr/local/obm" name="Path" type="string" />
    </Key>
    <Key name="Deselected Source">
        <!-- Please enter your file path, e.g. /root/Documents -->
        <Value data="/tmp " name="Path" type="string" />
    </Key>
    <!-- Settings for your scheduled backups -->
    <Key name="Schedule Settings">
        <!-- Enable scheduled backup on this computer -->
        <!-- Y: Yes -->
        <!-- N: No -->
        <Value data="Y" name="Enable" type="boolean" />
        <!-- Daily settings -->
        <!-- Copy and paste the whole <Key> to add more daily schedules -->
        <Key name="Daily Schedule Settings">
            <!-- Name of schedule -->
            <Value data="Daily-Schedule" name="Daily Linux File Backup"
            type="string" />
            <!-- Start hour -->
            <!-- 0, 1, 2... 23 -->
            <Value data="22" name="Hour" type="integer" />
            <!-- Start minute -->
            <!-- 0, 1, 2... 59 -->
            <Value data="0" name="Minute" type="integer" />
            <!-- Duration of this backup in hours -->
            <!-- 1, 2, 3... -->
            <!-- A value of -1 means run until job finish -->
            <Value data="-1" name="Duration" type="integer" />
        </Key>
    </Key>
    <!-- This is the collection of destinations -->
    <Key name="Destination Settings">
        <!-- Concurrency level is the number of destinations to run
        backup concurrently -->
        <!-- 2, 3, 4... -->
        <!-- 1 : Backup to destinations one by one sequentially -->
        <!-- -1: Backup to all destinations concurrently -->
        <Value data="1" name="Concurrency Level" type="integer" />
        <!-- CBS destination is where the files are backup to server --
        >
        <Key name="CBS Destination Settings">
        </Key>
    </Key>
    <!-- This shows the in-file delta setting -->
    <Key name="In-file Delta Setting">
        <!-- Enable in-file delta backup -->
        <!-- Y: Yes -->
        <!-- N: No -->
        <Value data="Y" name="Enable" type="boolean" />
        <!-- Default in-file delta type -->
        <!-- D: Differential -->
        <!-- I: Incremental -->
        <Value data="I" name="Default Delta Type" type="string" />
    </Key>
</Key>
</Setting>

```

Appendix D Uninstall AhsayOBM (rpm)

To uninstall AhsayOBM use the rpm -e command and then use the rm command to remove the remaining AhsayOBM files from the machine.

```
# rpm -e obm
Log Time: Mon Jun 27 11:38:23 HKT 2016

Verifying current user privilege ...
Current user has enough privilege to "uninstall".

Uninstall Ahsay Online Backup Manager from /usr/local/obm

Shutting down Scheduler
Wait 5 seconds before Scheduler exits
Kill running Ahsay Online Backup Manager
Kill Process by Image Name: /usr/local/obm/jvm/bin/bJW
Ignore Process by Image Name:
Kill Process by Image Name: /usr/local/obm/jvm/bin/bschJW
Ignore Process by Image Name:
Kill Process by Image Name: /usr/local/obm/jvm/bin/java
Ignore Process by Image Name:
Removing Scheduler script obmscheduler from service
Uninstall Service for NIX type OS
Using init script path /etc/init.d
Using run level script path /etc/rc.d
Removing symbolic link from run levels
Removing script file obmscheduler from /etc/init.d
Remove shortcut /usr/share/applications/obm.desktop
Remove shortcut /root/Desktop/obm.desktop
Ahsay Online Backup Manager uninstall procedure is complete!
It is now safe to remove files from /usr/local/obm
    Remove files in /usr/local/obm

# rm -fr /usr/local/obm
```

Appendix E Uninstall AhsayOBM (sh)

To uninstall AhsayOBM use the uninstall.sh script and then use the rm command to remove the remaining AhsayOBM files from the machine.

```
# /usr/local/obm/bin
# sh uninstall.sh
Log Time: Mon Jun 27 11:52:03 HKT 2016

Verifying current user privilege ...
Current user has enough privilege to "uninstall".

Uninstall Ahsay Online Backup Manager from /usr/local

Shutting down Scheduler
Wait 5 seconds before Scheduler exits
Kill running Ahsay Online Backup Manager
Kill Process by Image Name: /usr/local/jvm/bin/bJW
Ignore Process by Image Name:
Kill Process by Image Name: /usr/local/jvm/bin/bschJW
Ignore Process by Image Name:
Kill Process by Image Name: /usr/local/jvm/bin/java
Ignore Process by Image Name:
Removing Scheduler script obmscheduler from service
Uninstall Service for NIX type OS
Using init script path /etc/init.d
Using run level script path /etc/rc.d
Removing symbolic link from run levels
Removing script file obmscheduler from /etc/init.d
Remove shortcut /usr/share/applications/obm.desktop
Remove shortcut /root/Desktop/obm.desktop
Ahsay Online Backup Manager uninstall procedure is complete!
It is now safe to remove files from /usr/local/obm

# cd /usr/local
# rm -fr /usr/local/obm
```

Appendix F Uninstall AhsayOBM (dpkg)

To uninstall AhsayOBM on Ubuntu use the `dpkg -r obm` command to uninstall and the remaining AhsayOBM machine.

```
# dpkg -r obm
(Reading database ... 404398 files and directories currently installed.)
Removing obm (7.14.1.0) ...
Log Time: Fri Sep 1 17:30:29 HKT 2017

Verifying current user privilege ...
Current user has enough privilege to "uninstall".

Uninstall Ahsay Online Backup Manager from /usr/local/obm

Shutting down Scheduler
Wait 5 seconds before Scheduler exits
Kill running Ahsay Online Backup Manager
Kill Process by Image Name: /usr/local/obm/jvm/bin/bJW
Ignore Process by Image Name:
Kill Process by Image Name: /usr/local/obm/jvm/bin/bschJW
Ignore Process by Image Name:
Kill Process by Image Name: /usr/local/obm/jvm/bin/java
Ignore Process by Image Name:
Removing Scheduler script obmscheduler from service
Uninstall Service for NIX type OS
Using init script path /etc/init.d
Using run level script path /etc
Removing symbolic link from run levels
Removing script file obmscheduler from /etc/init.d
Remove shortcut /usr/share/applications/obm.desktop
Ahsay Online Backup Manager uninstall procedure is complete!
It is now safe to remove files from /usr/local/obm
    Remove files in /usr/local/obm

# cd /usr/local
# rm -fr /usr/local/obm
```

Appendix G Handling of Non-regular Files

The following non-regular files/folders such as device files, block files, virtual files systems, pseudo file systems etc will be automatically ignored if selected for backup. Backup log entries of these files/folders will not appear in the backup logs.

Example:

/proc
/dev
/sys
/run

For AhsayOBM installations on Linux GUI, these devices will not be shown on the backup source screen.