

Ahsay Cloud Backup Suite Software v9 Upgrade Guide

Ahsay Systems Corporation Limited

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Revision History

Date	Descriptions	Type of modification
January 25, 2022	Revised content for AhsayCBS v9.1	V9.1.0.0
February 10, 2022	Added content to Ch 3.1 Added 8.1.11	V9.1.0.0
May 4, 2022	Fixed links Updated Ch 3 Ch 8.2.1 moved from another section	V9.1.0.0
July 7, 2022	Replaced "Office 365" with "Microsoft 365"	V9.3.2.0
November 25, 2022	Added path to v9.5 branding profile in Ch 4.2 Ch 8.1.11 V9's cbs.db Ch 8.1.12 Branding Profile	V9.5.0.0
April 25, 2023	Updated to correct v7 in Ch 3, 4.1 and 5.2	V9.5.4.0

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1 System Requirements

Before you upgrade your AhsayCBS to the latest AhsayCBS v9, please pay attention to the following system requirements and make sure that the requirements are met before getting started.

- The AhsayCBS should be deployed on a machine supporting 64-bit multiple CPU and multiple cores environment.
- A 64-bit operating system will allow AhsayCBS to run on a 64-bit Java OpenJDK 1.8 platform, as 64-bit Java is capable of supporting sufficient capacity for future business expansion, to meet the need of existing customers and to support new AhsayCBS server features.
- For AhsayCBS running on Linux / FreeBSD, the GLIBC or GNU C Library version 2.14 or higher must be installed to support OpenJDK 1.8.
- If enabling AhsayCBS 2FA, the firewall must be configured to allow outbound connections to **pns.ahsay.com** via port 80 and 443 to be able to use push notifications which is a new feature introduced in AhsayCBS v8.5.0.0 or above.

Please refer to the following articles for the system requirements of AhsayCBS.

[v7] [FAQ: Ahsay Software Compatibility List \(SCL\) for version 7.3 or above \(5001\)](#)

[v7] [FAQ: Ahsay Hardware Requirement List \(HRL\) for version 7.3 or above \(5000\)](#)

[v8] [FAQ: Ahsay Software Compatibility List \(SCL\) for version 8.1 or above](#)

[v8] [FAQ: Ahsay Hardware Requirement List \(HRL\) for version 8.1 or above](#)

[v9] [FAQ: Ahsay Software Compatibility List \(SCL\) for version 9.1 or above](#)

[v9] [FAQ: Ahsay Hardware Requirement List \(HRL\) for version 9.1 or above](#)

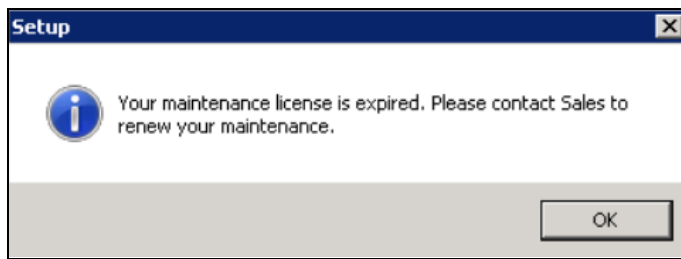
It's recommended to install AhsayCBS on server grade O/S and hardware platform.

For evaluation purposes, the installation on Windows 10 or Windows 11 platforms are permitted for non-production use.

2 License

Please check on the following outlines before you upgrade your Ahsay products.

- It is recommended to check on each AhsayCBS server, your license key support date and expiry date to make sure it has not expired before performing the upgrade so that the license key is eligible to run on the latest version.
 - You can login to your AhsayCBS, then click on License, then scroll down to verify your Expiry date is not yet passed.
 - If it has past, you should avoid upgrading, as doing so will cause your server to Stop, due to expired maintenance license. Without valid maintenance, your server should remain as-is on the day maintenance lapsed.
 - If upgrading AhsayCBS on Windows platform using the **cbs-win.exe** installer, if the license key does not have valid maintenance, the process will fail. You will receive the following message if you have an expired maintenance license. (There is no similar checking when upgrading Linux)



- Here is a summary of the license CAL required for the AhsayCBS:
 - AhsayOBM (Per device to back up)
 - AhsayACB (Per device to back up)
 - AhsayCBS (Per running instance)
 - Replication Module (Per device to replicate) for AhsayOBM/AhsayACB devices
 - Module applied to Backup Server's AhsayCBS license key
 - Redirection Module (Per device to redirect)
 - Module applied to separate Redirector license key
 - Separate modules for Microsoft 365, VMware, Hyper-V, MS Exchange Mail Level, OpenDirect/Granular Restore, Mobile etc.
- Before upgrading AhsayCBS Redirector, please ensure that you have
 - i. A valid Redirector license key with Redirector CAL assigned.
 - ii. A separate AhsayCBS Backup Server License with an **AhsayCBS module enabled**. With a standalone AhsayRDR setup, you will not need any Client CAL under AhsayCBS Server License. Only the AhsayCBS module is required.
- Upgrade of Replication Receiver system will require an AhsayCBS Server License with AhsayCBS module enabled. No Client CAL necessary if this server is providing receiver services only.

- Upon upgrade, a "12 hours grace period" will be provided to manage deficient quota usage, after which Server Stopped if license not amended.
- Trial users do not count towards CAL quotas. However, once they become Paid users, their usage will be deducted from the license quota.
- Suspended Paid users, consume license quota.

If you need to purchase extra modules/license CALs and or CBS modules you can purchase it at the [Ahsay Shopping Centre](#), or you may [contact our Sales Team](#) for more information.

3 Limitations and Factors to consider on Upgrading AhsayOBM / AhsayACB

In this chapter, we will discuss the limitations on upgrading AhsayOBM / AhsayACB from an older to latest version:











3.1 Upgrade to v9, from pre-v9.x (v7.17.2.x+, v8.x)

- Auto Update may not be supported on some older versions of the following operating systems:
 - FreeBSD
 - Linux

Since AhsayOBM v8 or above runs on Open JDK 8, Linux / FreeBSD machines must support and have GBLIC 2.14 or later already installed. The AUA will not deploy installation or upgrade of GBLIC during the auto update. Please update them manually on the above platforms.

For reference on the respective platforms, please check the [AhsayOBM Quick Start Guide](#) for further details.

The following packages must be present on the Linux / FreeBSD machines for AhsayOBM v8 or above to be installed.

Package	Linux	FreeBSD
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.		
psmisc http://psmisc.sourceforge.net/ The 'psmisc' package which contains the 'fuser' components must be installed for AhsayOBM, for the auto update agent (AUA) process to work properly.		
OpenJDK Version 1.8 https://www.freebsd.org/java/ and the installed Java Development Kit version must be 8.		
GNU LIBC 2.14 https://www.gnu.org/software/libc/ The installed 'GNU LIBC' version must at least be 2.14.		

- Periodic Backup Schedule Conversion
 - All AhsayOBM v7 / pre-v8.5.0.0 Windows non-file backup sets with Continuous Backup schedules will be migrated to periodic schedules.
 - All AhsayOBM v7 / pre-v8.5.0.0 Windows file backup set with Continuous Backup schedules will not be migrated to periodic schedules.

- For branded environments, recent Windows desktop and server editions (ie 10, Windows 2016, etc) may experience difficulties with Auto Update, if Digital Signature is not enabled when building branded client installers. You may elect to manually upgrade client.
- VMware ESXi/vCenter backup sets running in Non-VDDK mode, is unsupported. If you have backup sets in this mode, your client device should not upgrade to v9 client agent
- The method used for obtaining a consistent snapshot for Oracle backup sets on Windows has changed, starting from AhsayOBM v8.5.0.0.

Instead of using Microsoft VSS, the database files will be spooled to the temporary folder (AhsayOBM makes a copy of the entire database and/or archive log files and saves them in the temporary directory) in order to achieve a consistent snapshot for backups.

As a result, the free disk space on the temporary folder should be at least 150% of the total database size to accommodate the database files and any incremental/differential delta files generated.

- MS Exchange mail level backup sets using MAPI backup mode may stop working. It is strongly recommended to transition to EWS protocol.









For details please refer to the following article [Termination of Support for mail level backups using MAPI Protocol on MS Exchange 2013 Cumulative Update 23 or above.](#)

- AhsayOBM on Synology and QNAP does not support Auto Update, they must be manually updated.
- MS Exchange MAPI CDO is no longer supported for v9 client agents.
- Non-VDDK VMware backup is no longer supported for v9 client agents.
- Hyper-V and VMware backup sets introduces "Backup Types" with choices for "Full" and "Incremental". This is based on deltas provided by the underlying VM technology, passed to Ahsay client agent to backup. It is recommended to frequently run job using "Full", as it will be more consistent (less prone to backing up corrupted data), but downside is longer backup job times.
- On v9, MS SQL backups are currently running in Full Database backup. In ODBC mode, Database Log backup is still supported, but in VSS mode Database Log backup is unsupported (log file won't shrink). If you run VSS mode, it is recommended to switch to ODBC mode.
- Deduplication and Migrate Data (the conversion of pre-CBS9 data blocks) are for Backup Sets running on v9 client agent (OBM/ACB). For users still running pre-CBS v9 agents and haven't upgraded to v9 client, they will continue to use In-File Delta technology (Full/Incremental/Differential).
- "Migrate Data" for v9 Deduplication, will reupload changed Source data at time of backup storing the reupload as v9 data blocks. It will temporarily require up to double the destination's storage to convert pre-CBS9 data blocks into the new Deduplication-compatible blocks. CBS Admin should monitor user's storage Quota, which will be affected by the increased usage caused by Migrate Data. Temporary space that was used for Migrate Data will be reclaimed according to the backup set's Retention Policy cleanup setting. For backup sets with long Retention history, the storage cannot be reclaimed until the threshold has exceeded.

4 Pre-Upgrade

4.1 Pre-Upgrade Notes

This upgrade guide is for AhsayCBS Administrator or Service Providers familiar with AhsayCBS and who will perform an in-place upgrade from AhsayCBS to the latest version of AhsayCBS v9. Even if you had prior upgrade experience with our product, you should thoroughly read through this revised document for any new information or procedures, before attempting the upgrade.

	If you are new to the product line, refresh your knowledge about the installation from the AhsayCBS Quick Start Guide .
	You should review the following to ensure compatibility with your environment: <ul style="list-style-type: none">• Release Notes• AhsayCBS Hardware Compatibility List (HRL), FAQ: Ahsay Hardware Requirement List (HRL) for version 9.1 or above• AhsayCBS Software Compatibility List (SCL), FAQ: Ahsay Software Compatibility List (SCL) for version 9.1 or above
	Your server should already be running AhsayCBS v7.17.2.2+ or AhsayCBS v8.x. If you are running AhsayOBSR v6.29 or lower, this guide is not for you. You should review this guide to upgrade from v6.29, Best Practice for Upgrade from AhsayOBS to AhsayCBS and Data Migration Conversion
	Your server should be in good health. If you are experiencing issues and have not yet consulted with Ahsay Technical Support, it would be advisable to have your issue resolved prior to upgrade. In the event that your issue has been fixed in a newer release, our Support Team will recommend for you to continue with the upgrade.
	You should have reviewed the AhsayCBS v9 New Features DataSheet , and read through the AhsayCBS Administrator's Guide as new enhancements and new features are detailed there.
	Hire our Ahsay Professional Services to enjoy a smooth and effortless upgrade experience. Visit the Ahsay Services page to learn more about our offered services.
	Prior to upgrading, we recommend to temporarily disable any Antivirus, scanning checks, or system updates. This will ensure no conflicts that could cause the upgrade to fail. If it has been a while since your Host OS was rebooted, you may want to reboot the OS and check that CBS successfully startup (and login) before upgrading AhsayCBS to narrow post-upgrade troubleshooting.
	If you are upgrading your CBS pre-v9 , to v9.x for the first time, your user's backup data destination may require up to twice free storage to convert to Deduplication optimized Blocks.

Admin of AhsayUBS?

For AhsayUBS environment, you will find your upgrade procedure in the AhsayUBS Administrator's Guide.

The upgrade of AhsayCBS on AhsayUBS is to be performed as a pair, upgraded by upgrading the AhsayUBS firmware. You should not attempt to upgrade AhsayCBS separately.

Admin of Legacy AhsayCBS Azure Appliance?

For customers running the legacy Appliance, please consult with Ahsay Technical Support for further information.

The Azure AhsayCBS Appliance is an appliance package based on FreeBSD, originally published in 2016, and sunset mid-2018 for new installations.

Note: Not to be confused with AhsayCBS installed on an Operating System hosted on Azure virtual machine, which is still supported.

4.2 Pre-Upgrade Tasks

Before you start the upgrade of your current AhsayCBS server for the latest AhsayCBS v9 release version, please make sure you have the following four (4) items prepared:

1. A set of the latest configuration backed up
 - In AhsayCBS, you can back up the configuration from:
[System Settings] -> [Advanced] -> [Auto Save].
 - The **[Auto Save]** feature allows you to store your CBS server's configuration with Ahsay Cloud. In the event of a disaster of your CBS server, you can reinstall CBS and then download your configuration.
 - Feature should be enabled at least one day prior to upgrade. As **[Auto Save]** is a daily routine, this to ensure function completes.
 - Verify the date of last upload shown on **[Auto Save]** page.
 - There is a 50MB limit, any configuration package greater than 50MB will not be uploaded. You might exceed 50MB if you have more than one branding JSON for any Admin or Sub-Admin. If so, you should manually backup your configuration settings.
 - If you prefer to manually backup your configuration, you may zip the **%AhsayCBS_HOME%/conf** folder, and the **%AhsayCBS_HOME%/system/obs/policies** folder; keep your copy in separate destination.
2. If you operate a branded AhsayCBS, export each of your production Branding JSON.
 - Beginning with AhsayCBS v9.5, branding profiles are now stored in **%AhsayCBS_HOME%/conf/cbs.db** and **%AhsayCBS_HOME%/conf/Branding/{ID}**
 - CBS v9.5 will migrate existing pre-v9.5 JSON to the new format automatically.
3. A copy of your existing (space permitting):
 - AhsayCBS installer binary matching your existing version.
 - AhsayCBS configuration and branding information found in the **%AhsayCBS_HOME %/conf** folder
 - System home **%AhsayCBS_HOME%/system** folder.
 - AhsayOBM/AhsayACB Offline Client installers, download via CBS Web Console.
 - If you have modified your cbs.css, retain a copy from **%AhsayCBS_HOME%/webapps/cbs/include/cbs.css**
 - If you have modified any Report templates, retain a copy from **%AhsayCBS_HOME%/webapps/obs/jsp/report/*.***
4. Disable the AhsayOBM/AhsayACB client auto update (AUA) for each user.

We recommend you use the CBS Web Management Console to Disable/Enable AUA settings per user. Alternatively, temporarily to globally disable the client auto update, rename the "**index.xml**" file in **%AhsayCBS_HOME%/download/liveUpdate** to "**index.xml.disable**".

4.2.1 Pre-Requisites

For AhsayCBS v9

1. OpenJDK 8 for Windows, Linux, FreeBSD
 - OpenJDK is bundled with installation of AhsayCBS for Windows and Linux.
 - For upgrade or installation on FreeBSD, your system administrator must manually install OpenJDK 8 (reference: <https://www.freebsd.org/java/>)

Note: AhsayCBS 9 only supports OpenJDK 8.

2. GNU C Library (GLIBC) requirement for Linux and FreeBSD
 - For upgrade or installation, your system administrator must verify system runs [GLIBC](#) 2.14 or greater. Otherwise, manually install GLIBC 2.14 or greater.

4.2.2 API Tests

As new APIs (JSON format) can be introduced in new releases of AhsayCBS, we recommend you review Release Notes and the API guide for any changes. We recommend that after upgrading, you test your application to ensure compatibility.

Download the [AhsayCBS API Guide](#) for reference.

Please note that some API may have a “version 1” and a “version 2” type. Starting with the v9 API Guide, version 1 API details are removed.

5 Upgrade Sequence

Before upgrading your Backup Server, Replication Server, and Redirector Server; please consider the upgrade sequence to avoid possible issues. The following details provide the recommended sequences for AhsayCBS upgrade.

We recommend you have enabled AutoSave feature for each AhsayCBS server, and allow it to run at least one day in advance of your upgrade.

5.1 Ahsay Redirector (if applicable)

Upgrade of Redirector Host has a higher precedence than the Backup Server or Replication Receiver. We recommend this server be upgraded first, before proceeding with the AhsayCBS Backup Server upgrade.

WARNING

It is assumed that you no longer have a mixed Redirector environment, consisting of AhsayOBS v6 Backup Servers with AhsayCBS Backup Servers, joined to the same AhsayCBS Redirector network.

This specifically applies to AhsayOBM/AhsayACB v6 clients with *Backup Set Local Copy* feature enabled, which is incompatible with AhsayCBS if you modify the Redirector Server's "Hosting a Redirector" setting before these clients upgrade to v9 client.

5.2 AhsayCBS (Backup Server)

The Backup Server must be upgraded to AhsayCBS before your clients are upgraded, as the CBS Backup Server is the source of the client installers.

AhsayCBS (Backup Server) is backward compatible and will be able to process backup clients from v6.29, v7.17.2.2+, and v8.

It is suggested to disable any Replication (if enabled) before upgrading your AhsayCBS server.

If you are branded, you should disable AUA for all users prior to upgrade. This will allow you to verify branding properties after AhsayCBS upgrade, and avoid unintentional branding errors pushed to client devices.

5.3 AhsayOBM / AhsayACB

Before enabling the auto update or manual update for your users:

- It is strongly recommended to allow your AhsayCBS system to run for a day or two, in order to resolve any outstanding issues first, before planning to upgrade the AhsayOBM/AhsayACB of clients to the latest version.
- When enabling Auto Update, it is recommended to perform the upgrade of the clients in small batches e.g. 5-10 users, to avoid network congestion and potentially overloading the AhsayCBS server. Each v7+ clients will poll the CBS server every 15-minutes for AUA instruction, and it may take another 30-60 minutes for the client to complete the upgrade.

- Backup Set Index Conversion

Backup set index conversion will take place for all v6, v7 and pre-v8.3 AhsayOBM/AhsayACB backup sets after upgrading. The index conversion process will be performed on the backup set on the first backup job immediately after the upgrade.

The backup set index conversion cannot be disabled.

- Periodic Data Integrity Check

After AhsayOBM/AhsayACB is upgraded from v6, v7, or pre-8.3.4.x versions, on the first backup job after upgrade, a mandatory PDIC job will be triggered to verify the integrity of the data and index. Depending on the number of files and jobs in the backup set, this process could take some time to complete.

If there are a large number of AhsayOBM/AhsayACB clients upgrading within a short period of time, the resulting large concentration of mandatory PDIC jobs could negatively affect the performance and stability of the AhsayCBS server.

Supported Linux and FreeBSD clients must have installed GLIBC v2.14 or later.

As some of the platforms have been de-supported, before you enable the auto-upgrade or manual upgrade, please refer to the links found under System Requirements section.

5.4 Ahsay Replication Receiver (if applicable)

It is recommended that Ahsay Replication Receiver is upgraded *last* to provide a secondary copy of your AhsayCBS Backup Server's system's configuration and data. The Replication Receiver(s) should be disabled before AhsayCBS upgrade is carried out.

Please consider only upgrading your Replication system after AhsayCBS Backup Server has been running stable for short a period of time.

Warning

Upgrading out of order can result in failure of the upgrade and may cause service interruption to your customers.

Recommendation

We recommend you maintain identical version and branding, between all your AhsayCBS servers, regardless if they are Redirector, Replication, Backup Servers.

6 Upgrade from Previous AhsayCBS Version

6.1 Windows

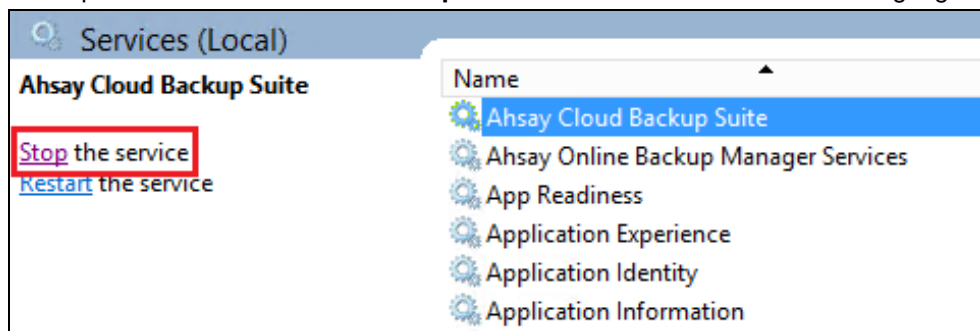
6.1.1 Upgrade AhsayCBS by Windows Executable (cbs-win.exe)

The following steps refer to AhsayCBS with Standard installation. Substitute our default path with your custom installation path.

If you are using OEM version (branded installation), your Service name and/or path name may be unique than shown in our guide, substitute for your environment.

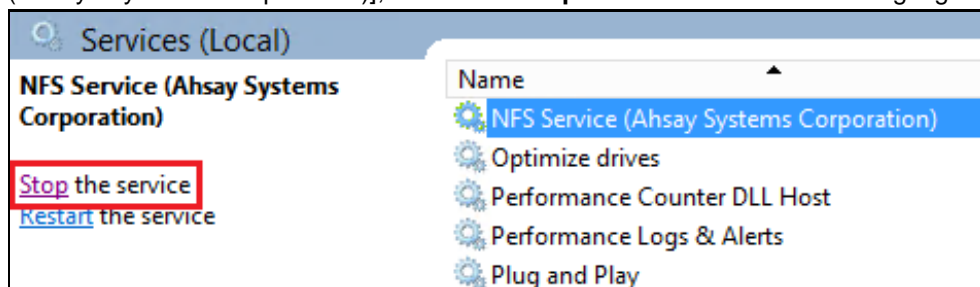
For branded environments, you may use the Ahsay public release download to upgrade your branded AhsayCBS. The *cbs-win.exe* installer will preserve your branding upon upgrade, however the Windows Service name may revert. As a precaution, you should export a copy of each of your Branding JSON for “admin” and any primary “sub-admin” account. After you have upgraded the server, you are required to [Rebuild Client](#) for “admin” and each primary “sub-admin” account, before the new client is available for download or AUA.

1. Download the AhsayCBS executable (*cbs-win.exe*) from Ahsay [website](#).
2. Logon with Windows administrator privileges (i.e. administrator).
3. Stop the AhsayCBS service from the Services management console, this can be reached from [Control Panel] > [Administrative Tools] > [Services] > Ahsay Cloud Backup Suite. Click the **Stop** button on the left as highlighted.

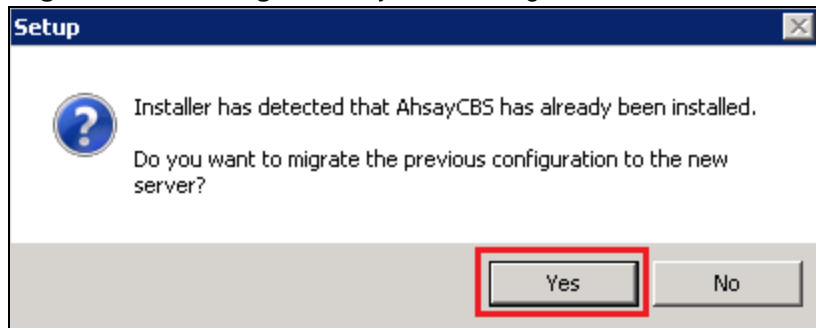


4. Stop the **NFS** Service.

To do so, go to [Control Panel] > [Administrative Tools] > [Services] > [NFS Service (Ahsay Systems Corporation)], click the **Stop** button on the left as highlighted.



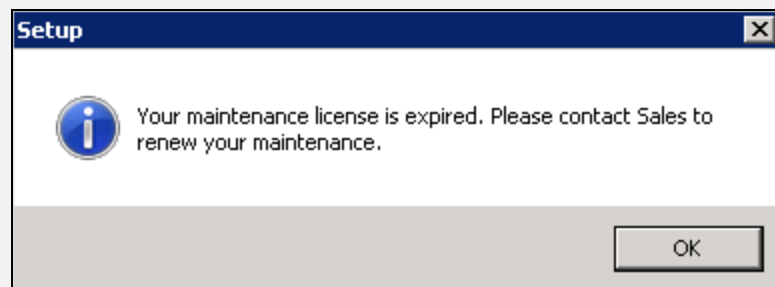
5. Remove the folder *C:\Program Files\AhsayCBS\system\cbs\Installers*
 - This contains Branded installers, which will be out of date upon AhsayCBS upgrade.
 - You can skip this step if you are unbranded.
6. Double-click the downloaded **cbs-win.exe** to start the AhsayCBS setup wizard.
7. Select the language to use during the installation from the dropdown box and click on [OK].
8. The installer will detect there is already an AhsayCBS installed, click on **[Yes]** to **migrate the settings** from your existing installation to the new installation.

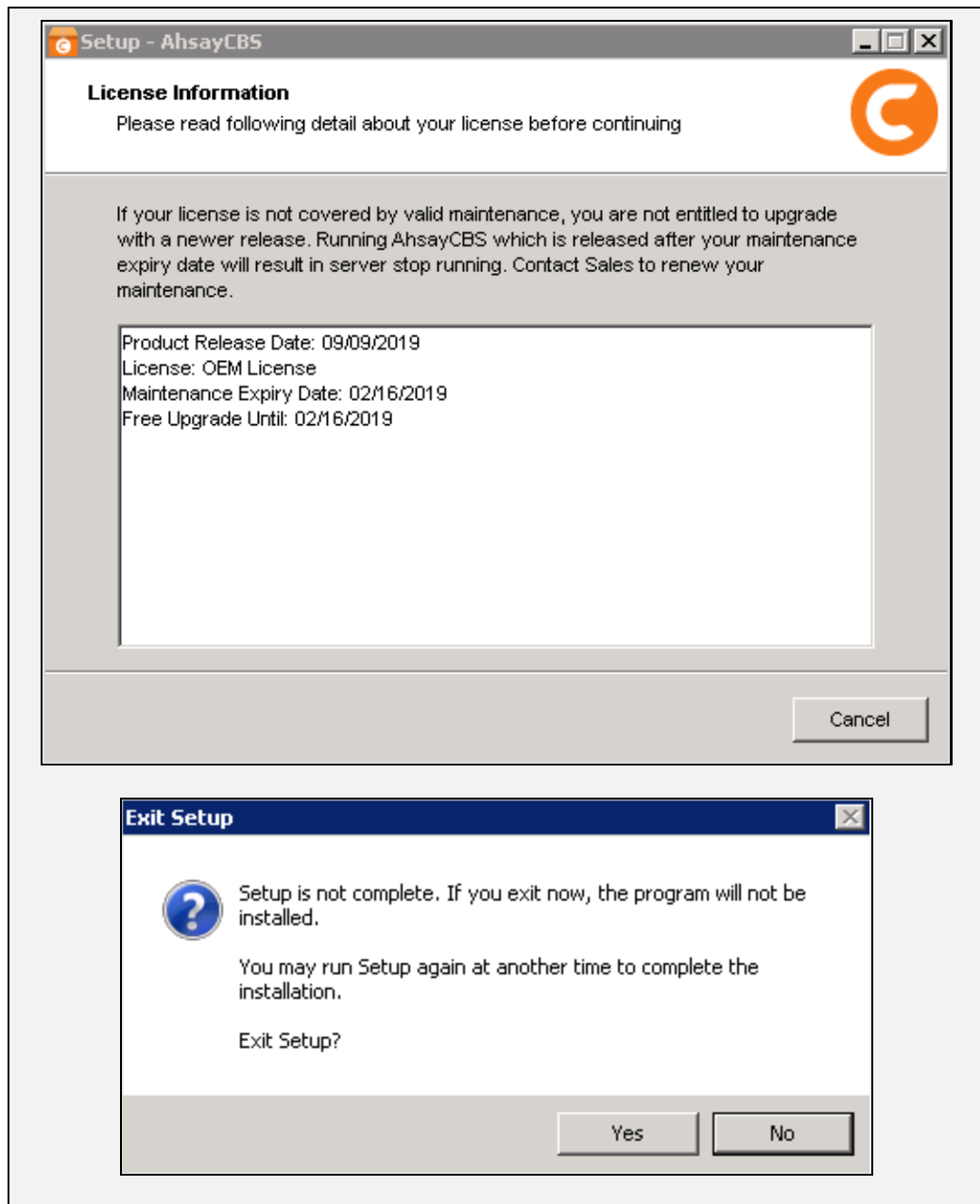


9. A welcome screen will be shown, please click [Next] button to go to the next step.
10. On the next screen, it will prompt the license agreement window. After you have read the terms and conditions, choose [I accept the agreement] and click the [Next] button to proceed.
11. The system will check the validity of your maintenance license before proceeding with the installation. Click [Next] to continue.

NOTE

Before upgrading to the latest version of AhsayCBS make sure that your license key has a valid support maintenance otherwise installation will fail. You will receive the following messages if you have an expired maintenance license.





12. Select/deselect the options according to your preferences and click the [Next] button.
13. The next screen will provide a summary detail of the options selected. Please verify the installation options. If they are correct, click the [Install] button to begin the installation.
14. Wait until the upgrade process is completed. The installer will expand the installation files to the AhsayCBS installation folder and it should take a few moments. The installation will reuse the same installation folder path.
15. Start up the service from the Services management console, [Control Panel] > [Administrative Tools] > [Services] > [Ahsay Cloud Backup Suite]. Press the [Start] button to start the service.
16. The AhsayCBS service is now starting up. Check that it indeed shows Started.

17. NFS Service is installed upon installation / upgrade of AhsayCBS. Make sure that the service also starts (otherwise manually Start), and following ports are opened:

- 111 - Port mapper
- 1058 - Port required for Run Direct
- 2049 - Port for the NFS service

NOTE

If the upgrade is performed when an AhsayCBS Run Direct restore session is taking place, the Run Direct session will not be interrupted during the upgrade. When the upgrade is completed, backup user can still migrate the VM to the restore destination they have chosen.

18. You can open the following log files to check if there are any errors during the startup located in the **%AhsayCBS_HOME%\logs** folder:

- catalina_YYYY-mm-dd.log
- console_YYYY-mm-dd.log
- obs_context_YYYY-mm-dd.log

Note: *YYYY-mm-dd* refers to the upgrade date.

19. Logon to the AhsayCBS web management console and do a post-upgrade check.

20. Here is a list of suggested items to check after you started up your AhsayCBS.

- Check "Host Name" valid represents your Fully Qualified Domain Name (FQDN) of your AhsayCBS server for which this installation was installed onto. You may find it in AhsayCBS web console > [System Settings] > [Basic] > [General] > Host
- Check SMTP settings in AhsayCBS web console > [System Settings] > [Basic] > [Email].
- Check all users' profile, backup and policy group settings in AhsayCBS web console > [Backup/Restore] > [Users, Groups & Policies].
- Recommended for branded servers; Check each user's Auto Update setting is disabled. This will allow you time to verify branding and Rebuild Client, as required.
- Check AhsayCBS License page, there are no negative usages.
- Check HTTPS connection to the AhsayCBS on different browsers (Safari, Firefox and Chrome). Verify webpage loads.
- Check each client Download link is not outdated. Please refer to this [article](#) on how to resolve this.
- Connect from any AhsayOBM/AhsayACB to AhsayCBS to verify clients can connect.

For OEM (branded) version, please refer to [Branding on AhsayCBS](#) to generate new installers.

When you confirmed the settings are fine, then enable Auto Update via the CBS interface.

If you had globally disabled AUA (pre-upgrade step-3), you can reenble the client auto update by renaming the "*index.xml.disable*" file in "*%CBS_HOME%/download/liveUpdate/*" to "*index.xml*"

NOTE (if upgrading from pre-v8.5.0.127 AhsayCBS)

If your previous AhsayCBS version was v8.5.0.126 or earlier, and you just upgraded to a newer version for the first time, then you should review ***%CBS_INSTALL_PATH%/logs/retention-policy-reset.log***

This is response to [Critical Issue with AhsayCBS v8 web console update of retention policy settings](#)

The advisory and the fix, applies to the first CBS upgrade when you upgrade from pre-v8.5.0.127. If you have upgraded CBS several times since pre-v8.5.0.127, then the ***retention-policy-reset.log*** might have been archived and no longer found in the *logs* path.

6.1.2 Upgrade AhsayCBS by Zip File (cbs-win.zip)

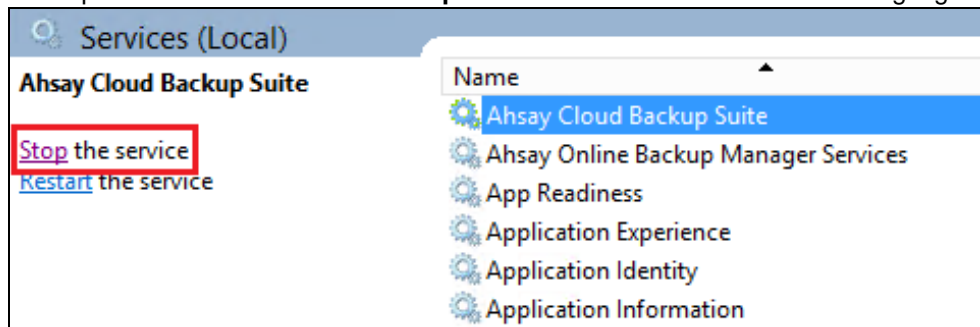
If customers still require *cbs-win.zip* file, for example the installation/upgrade of multiple AhsayCBS instances (via AhsayPRD) on a single Windows server, please contact Technical Support to request. You may open a Support Ticket via [Ahsay Partner Portal](#). Otherwise we encourage you to upgrade via *cbs-win.exe* instead.

By using this method to perform the upgrade, admins will have full control on the files added to the upgrade software. You should ensure your license has valid maintenance before continuing with upgrade. This method is recommended for users who are using unconventional setup, or have multiple instances installed on a single server (via AhsayPRD), or who are advanced admins who have used our past products.

The following steps are the instructions on how to upgrade AhsayCBS with *cbs-win.zip* file on Windows platform.

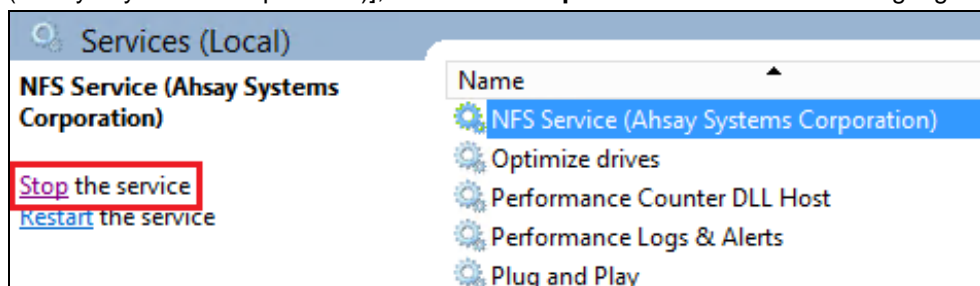
Note: If you are using OEM version (branded installation), your Service name and/or path name may be unique. Substitute our default path with your installation path.

1. Download the AhsayCBS zip file (*cbs-win.zip*) from the link provided by Ahsay Support.
2. Logon with Windows administrator privileges (i.e. administrator).
3. Stop the AhsayCBS service from the Services management console, this can be reached from [Control Panel] > [Administrative Tools] > [Services] > Ahsay Cloud Backup Suite. Click the **Stop** button on the left as highlighted.



4. Stop the **NFS Service**.

To do so, go to [Control Panel] > [Administrative Tools] > [Services] > [NFS Service (Ahsay Systems Corporation)], click the **Stop** button on the left as highlighted.



5. Remove the folder *C:\Program Files\AhsayCBS\system\lcb\Installers*
 - This contains Branded installers, which will be out of date upon AhsayCBS upgrade.

6. Rename the folder *C:\Program File\AhsayCBS* to

Example: *AhsayCBS_85486*

(rename the folder with its current version number appended; v8.5.4.86) so that you have a rollback copy in case of upgrade issue.

7. Create a new CBS folder to replace the folder your renamed in previous step. Folder name must match, otherwise existing AhsayCBS Windows Service will fail to start.

Example: *C:\Program File\AhsayCBS*

- Substitute our example with your actual installation path.

8. Expand the zip file to the directory created in previous step.

Example: *C:\Program File\AhsayCBS*

9. In this directory, Modify the name of the Java folder in the installation path:

- for 64-bit machine, change the folder “*java18x64*” to “*java*”.

10. Copy the following folders from the old installation folder and replace to the new *C:\Program File\AhsayCBS*

- *C:\Program File\AhsayCBS_85486\conf*
- *C:\Program File\AhsayCBS_85486\system*
- *C:\Program File\AhsayCBS_85486\logs*
- *C:\Program File\AhsayCBS_85486\user*
- *C:\Program File\AhsayCBS_85486*.**

You may omit copying the “*user*” folder, if your User Home path is not a folder inside your CBS installation path.

11. Start up the service from the Services management console, [Control Panel] > [Administrative Tools] > [Services] > [Ahsay Cloud Backup Suite]. Press the [Start] button to start the service.
12. The service is now starting up. Check that it indeed shows Started.

13. NFS Service is installed upon installation / upgrade of AhsayCBS. Make sure that the service also starts (otherwise manually Start), and following ports are opened:

- 111 - Port mapper
- 1058 - Port required for Run Direct
- 2049 - Port for the NFS service

NOTE

If the upgrade is performed when an AhsayCBS Run Direct restore session is taking place, the Run Direct session will not be interrupted during the upgrade. When the upgrade is completed, backup user can still migrate the VM to the restore destination they have chosen.

14. You can open the following log files to check if there are any errors during the startup located in the **%AhsayCBS_HOME%\logs** folder:

- catalina_YYYY-mm-dd.log
- console_YYYY-mm-dd.log
- obs_context_YYYY-mm-dd.log

Note: *YYYY-mm-dd* refers to the upgrade date.

15. Logon to the AhsayCBS web management console and do a post-upgrade check.

16. Here is a list of suggested items to check after you started up your AhsayCBS.

- Check "Host Name" valid represents your Fully Qualified Domain Name (FQDN) of your AhsayCBS server for which this installation was installed onto. You may find it in AhsayCBS web console > [System Settings] > [Basic] > [General] > Host
- Check SMTP settings in AhsayCBS web console > [System Settings] > [Basic] > [Email].
- Check all users' profile, backup and policy group settings in AhsayCBS web console > [Backup/Restore] > [Users, Groups & Policies].
- Recommended for branded servers; Check each user's Auto Update setting is disabled. This will allow you time to verify branding and Rebuild Client, as required.
- Check AhsayCBS License page, there are no negative usages.
- Check HTTPS connection to the AhsayCBS on different browsers (IE, Firefox and Chrome). Verify webpage loads.
- Check each client Download link is not outdated. Please refer to this [article](#) on how to resolve this.
- Connect from any AhsayOBM/AhsayACB to AhsayCBS to verify clients can connect.

For OEM (branded) version, please refer to the [Branding on AhsayCBS](#) section to generate new installers.

When you confirmed the settings are fine, then enable Auto Update via the CBS interface.

If you had globally disabled AUA (pre-upgrade step-3), you can reenable the client auto update by renaming the "*index.xml.disable*" file in "*%CBS_HOME%/download/liveUpdate/*" to "*index.xml*"

NOTE (if upgrading from pre-v8.5.0.127 AhsayCBS)

If your previous AhsayCBS version was v8.5.0.126 or earlier, and you just upgraded to a newer version for the first time, then you should review ***%CBS_INSTALL_PATH%/logs/retention-policy-reset.log***

This is response to [Critical Issue with AhsayCBS v8 web console update of retention policy settings](#)

The advisory and the fix, applies to the first CBS upgrade when you upgrade from pre-v8.5.0.127. If you have upgraded CBS several times since pre-v8.5.0.127, then the ***retention-policy-reset.log*** might have been archived and no longer found in the *logs* path.

6.2 Linux (CentOS, Red Hat Enterprise, Ubuntu, Debian)

To operate the below steps, you need to have shell access, have superuser privilege (i.e. root), experience with Unix commands, and you need to have some experience on installing/upgrading our products before.

Assumption: You have installed AhsayCBS in the path **/usr/local/cbs**. Substitute our default path with your true installation path. Alternatively, you may install into any mount if it is not nested in an existing Ahsay installation (It is illegal to currently have CBS installed in **/home/cbs**, and you upgrade into nested **/home/cbs/cbs9**).

NEW for v8+ -- OpenJDK and GLIBC Requirement

AhsayCBS v9 uses OpenJDK 8 which requires GLIBC 2.14 to be installed.

OpenJDK 8 is bundled with installation of AhsayCBS for Linux.

To check your version, run "`ldd --version`" from shell.

If you have questions, contact [Ahsay Technical Support](#)., before proceeding with upgrade.

1. Download the AhsayCBS zipped tar file (*cbs-nix.tar.gz*) from our website. Note the path where it was downloaded.
2. Logon with root privilege on your server.
3. From shell terminal, Stop the AhsayCBS service.

```
# cd /usr/local/cbs/bin
# sh shutdown.sh
```

4. If branded, remove the folder **/usr/local/cbs/system/cbs/Installers**; to cleanup old branded client binaries
5. Stop the NFS service.

```
# cd /usr/local/cbs/nfs/bin
# sh shutdown.sh
```

6. Verify that the service terminated:

```
# ps -ef | grep java
# ps -ef | grep nfs
```

7. Rename the existing installation folder eg: `/usr/local/cbs85486` (rename the folder with its current version number appended; ie v8.5.4.86) so that you have a rollback copy in case of upgrade issue.

```
# mv /usr/local/cbs /usr/local/cbs85486
```

8. Create a new CBS folder to replace the folder your renamed in previous step. Folder name must match, otherwise existing AhsayCBS service script will fail to start.

```
# mkdir /usr/local/cbs
```

9. Copy the installation file, `cbs-nix.tar.gz` to `/usr/local/cbs` and untar it.

```
# cp cbs-nix.tar.gz /usr/local/cbs
# cd /usr/local/cbs
# gunzip cbs-nix.tar.gz
# tar -xf cbs-nix.tar
```

10. Space permitting, Copy the **configuration** folder, **system settings** folder, **log** folder and **standard user home** folder from the old CBS folder (eg: `cbs85486`) to the installation path. (If lack of space, you can *Move* instead of *Copy*)

You may omit moving the “user” folder, if your User Home path is not a directory inside your CBS installation path.

Example:

```
# cd /usr/local/cbs/
# cp -rp /usr/local/cbs85486/conf .
# cp -rp /usr/local/cbs85486/system .
# cp -rp /usr/local/cbs85486/logs .
# cp -rp /usr/local/cbs85486/user .
```

11. Startup the AhsayCBS service by running the following commands:

```
# cd /usr/local/cbs/bin
# sh startup.sh
```

12. NFS Service is installed upon installation / upgrade of AhsayCBS. Make sure that the service also starts (otherwise manually Start under `/usr/local/cbs/nfs/bin/startup.sh`), and following ports are opened:

- **111** - Port mapper
- **1058** - Port required for Run Direct
- **2049** - Port for the NFS service

13. You may open the `/usr/local/cbs/logs/obs_context_YYYY-MM-DD.log` to check if there are any errors during the startup.

Note: `YYYY-MM-DD` refers to the upgrade date (today).

14. Logon to the AhsayCBS web management console and do a post-upgrade check.
15. Here is a list of suggested items to check after you started up your AhsayCBS.
- Check "Host Name" valid represents your Fully Qualified Domain Name (FQDN) of your AhsayCBS server for which this installation was installed onto. You may find it in AhsayCBS web console > [System Settings] > [Basic] > [General] > Host
 - Check SMTP settings in AhsayCBS web console > [System Settings] > [Basic] > [Email].
 - Check all users' profile, backup and policy group settings in AhsayCBS web console > [Backup/Restore] > [Users, Groups & Policies].
 - Recommended for branded servers; Check each user's Auto Update setting is disabled. This will allow you time to verify branding and Rebuild Client, as required.
 - Check AhsayCBS License page, there are no negative usages.
 - Check HTTPS connection to the AhsayCBS on different browsers (Safari, Firefox, and Chrome). Verify webpage loads.
 - Check each client Download link is not outdated. Please refer to this [article](#) on how to resolve this.
 - Connect from any AhsayOBM/AhsayACB to AhsayCBS to verify clients can connect.

For OEM (branded) version, please refer to the [Branding on AhsayCBS](#) section to generate new installers.


When you confirmed the settings are fine, then enable Auto Update via the CBS interface.

If you had globally disabled AUA (pre-upgrade step-3), you can reenabling the client auto update by renaming the `"index.xml.disable"` file in `"%CBS_HOME%/download/liveUpdate/"` to `"index.xml"`

NOTE (if upgrading from pre-v8.5.0.127 AhsayCBS)

If your previous AhsayCBS version was v8.5.0.126 or earlier, and you just upgraded to a newer version for the first time, then you should review **`%CBS_INSTALL_PATH%/logs/retention-policy-reset.log`**

This is response to [Critical Issue with AhsayCBS v8 web console update of retention policy settings](#)



The advisory and the fix, applies to the first CBS upgrade when you upgrade from pre-v8.5.0.127. If you have upgraded CBS several times since pre-v8.5.0.127, then the ***retention-policy-reset.log*** might have been archived and no longer found in the *logs* path.

6.3 FreeBSD

To operate the below steps, you need to have superuser privilege (i.e. root), experience with unix commands, and you need to have some experience on installing/upgrading our products before.

Assumption: You have installed AhsayCBS in the path **/usr/local/cbs**. Substitute our default path with your true installation path. Alternatively, you may install into any mount if it is not nested in an existing Ahsay installation (It is illegal to currently have CBS installed in **/home/cbs**, and you upgrade into **/home/cbs/cbs9**).

NEW for v8+ -- OpenJDK and GLIBC Requirement

AhsayCBS v9 uses OpenJDK 8 and GLIBC 2.14+.

1. For upgrade or installation on FreeBSD, your system administrator must manually install OpenJDK 8. (Reference: <https://www.freebsd.org/java/>)
2. AhsayCBS v9 uses OpenJDK 8 which requires GLIBC 2.14 to be installed.
3. To install the GLIBC port:

```
# cd /usr/ports/misc/compat9x
# make install distclean
```

If you install *port*, the source will be downloaded, patched if necessary, compiled and installed. If the *port* is dependent upon another *port*, that *port* will also be installed. After installing, *ports* are identical to packages.

If you have questions, contact [Ahsay Technical Support](#)., before proceeding with upgrade.

1. Download the AhsayCBS zipped tar file (*cbs-nix.tar.gz*) from our website. Note the path where it was downloaded.
2. Logon with root privilege on your server.
3. Stop the AhsayCBS service.

```
# cd /usr/local/cbs/bin
# sh shutdown.sh
```

4. If branded, remove the folder **/usr/local/cbs/system/cbs/Installers** ; to cleanup old branded client binaries

5. Stop the NFS service.

```
# cd /usr/local/cbs/nfs/bin
# sh shutdown.sh
```

6. Verify that the service terminated:

```
# ps -ef | grep java
# ps -ef | grep nfs
```

7. Rename the existing installation folder eg: `/usr/local/cbs85486` (rename the folder with its current version number appended; v8.5.4.86) so that you have a rollback copy in case of upgrade issue.

```
# mv /usr/local/cbs /usr/local/cbs85486
```

8. Create a new CBS folder to replace the folder you renamed in previous step. Folder name must match, otherwise existing AhsayCBS service script will fail to start.

```
# mkdir /usr/local/cbs
```

9. Copy the installation file, `cbs-nix.tar.gz` to `/usr/local/cbs` and untar it.

```
# cp cbs-nix.tar.gz /usr/local/cbs
# cd /usr/local/cbs
# gunzip cbs-nix.tar.gz
# tar -xf cbs-nix.tar
```

10. Space permitting, Copy the **configuration** folder, **system settings** folder, **log** folder and **standard user home** folder from the old AhsayCBS folder (eg: `cbs85486`) to the installation path. (If lack of space, you can *Move* instead of *Copy*)

You may omit moving the “user” folder, if your User Home path is not a directory inside your AhsayCBS installation path.

Example:

```
# cd /usr/local/cbs
# cp -rp /usr/local/cbs85486/conf .
# cp -rp /usr/local/cbs85486/system .
# cp -rp /usr/local/cbs85486/logs .
# cp -rp /usr/local/cbs85486/user .
```

11. Recreate symbolic link to the OpenJDK java home path (example: `/usr/local/openjdk8`)

```
# rm /usr/local/cbs/java
# ln -s /usr/local/openjdk8 /usr/local/cbs/java
```


12. Startup the AhsayCBS service by running the following commands:

```
# cd /usr/local/cbs/bin
# sh startup.sh
```

13. NFS Service is installed upon installation / upgrade of AhsayCBS. Make sure that the service also starts (otherwise manually Start under `/usr/local/cbs/nfs/bin/startup.sh`), and following ports are opened:

- **111** - Port mapper
- **1058** - Port required for Run Direct
- **2049** - Port for the NFS service

14. You may open the `/usr/local/cbs/logs/obs_context_YYYY-MM-DD.log` to check if there are any errors during the startup.

Note: `YYYY-MM-DD` refers to the upgrade date (today).

15. Logon to the AhsayCBS web management console and do a post-upgrade check.

16. Here is a list of suggested items to check after you started up your AhsayCBS.

- Check "Host Name" valid represents your Fully Qualified Domain Name (FQDN) of your AhsayCBS server for which this installation was installed onto. You may find it in AhsayCBS web console > [System Settings] > [Basic] > [General] > Host
- Check SMTP settings in AhsayCBS web console > [System Settings] > [Basic] > [Email].
- Check all users' profile, backup and policy group settings in AhsayCBS web console > [Backup/Restore] > [Users, Groups & Policies].
- Recommended for branded servers; Check each user's Auto Update setting is disabled. This will allow you time to verify branding and Rebuild Client, as required.
- Check AhsayCBS License page, there are no negative usages.
- Check HTTPS connection to the AhsayCBS on different browsers (Safari, Firefox and Chrome). Verify webpage loads.
- Check each client Download link is not outdated. Please refer to this [article](#) on how to resolve this.
- Connect from any AhsayOBM/AhsayACB to AhsayCBS to verify clients can connect.

For OEM (branded) version, please refer to the [Branding on AhsayCBS](#) section to generate new installers.

When you confirmed the settings are fine, if you had globally disabled AUA (pre-upgrade step-3), you can enable the client auto update by rename the "`index.xml.disable`" file in "`%CBS_HOME%/download/liveUpdate/`" to "`index.xml`"

7 Configure Update for AhsayOBM / AhsayACB

7.1 Auto Update AhsayOBM / AhsayACB by AUA

Notes:

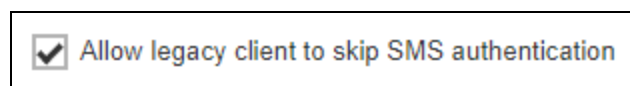
- It is recommended to perform the auto upgrade of the clients in small batches e.g. 5-10 users at a time, to avoid network congestion and potentially overloading the AhsayCBS server.
- If the AUA feature is enabled per individual user prior to upgrade on the previous AhsayCBS version, the feature will continue to be enabled when upgraded to the latest AhsayCBS release.

For AhsayCBS version 7.15.0.20 or above, AUA supports auto update of AhsayOBM / AhsayACB installation on Windows XP and 2003. However, please note that support for Windows XP and 2003 platforms are on best effort basis. For example, if Windows 2003 is running applications not supported on v7+, for example, MS Exchange 2003. These devices should not be upgraded and remain on v6.

You should also refer to the Release Notes for any changes, such as desupported features, which may require special handling to avoid upgrading agents on devices that should remain on older version.

If you have users with any mix-compatible devices, you should avoid enabling AUA to that user, as this may cause your user issues.


- For existing AhsayCBS with users using Twilio for MFA, if Two-Factor Authentication (2FA) is enabled on AhsayCBS v9, the “Allow legacy client to skip SMS authentication” should be checked until all legacy AhsayOBM/AhsayACB clients are upgraded to v9. For more information please refer to the discussion regarding **Twilio Credentials Verification** in the [AhsayCBS Administrator's Guide](#).



It is recommended you convert to TOTP 2FA instead of continued use of Twilio, as Twilio support has ceased.

7.2 How to Enable AUA

After you upgraded your AhsayCBS and the upgrade is stable on your environment, you can enable the Auto Update for your clients.

1. Login to your AhsayCBS management console.
2. Enter the [Backup/Restore] > [Users, Groups & Policies]
3. Click on the check box in front of the users that you want their backup client version to be updated.
4. Click on the  icon.
5. On the next screen, you can mark which user to enable, then press on AutoUpdate button.

For every 15 minutes or whenever the backup client service restarts, v7+ AhsayOBM/AhsayACB will check with your AhsayCBS for any updates. If any auto update instructions were found on the AhsayCBS, the update progress will be started.

7.3 Troubleshooting AUA

The Manage Backup User page for Client Version, is not real time. The version is listed after a backup job runs (or if the client communicates with the CBS server), so there could be delay in version shown between client and AhsayCBS. Furthermore, if a user has more than one device, only the recent job's client version is shown; there is no individual client version list view (other than to view the Backup Set Log page in CBS).

If you need to determine if the process is running or if an update was performed successfully, you may find the client-side AUA logs by reading the applicable section **Auto Update Agent Log (aia.log)**, in the following link:

- [\[v7\] FAQ: Where are the backup client application logs stored at?](#)
- [\[v8\] FAQ: Where are the backup client application logs stored at?](#)
- [\[v9\] FAQ: Where are the backup client application logs stored at?](#)

For issues where AUA did not update the client, please note that AUA cannot process in any of the following:

- The AhsayOBM/AhsayACB backup machine is turned off
- The AhsayOBM/AhsayACB backup machine is not connected to the internet
- The AhsayOBM/AhsayACB scheduler services are not running
- The AhsayOBM/AhsayACB user account status is not Enable. (Auto Update will not work if the user account is suspended or locked)
- Client has the AhsayOBM/AhsayACB application window open or minimized (System Tray icon is ok)

- If you recently enabled AUA, the client will poll the server every 15-minutes, then it can take another hour for the upgrade process to complete (time varies depending on bandwidth to download client binaries, and other routines)
- Antivirus or firewall preventing the binaries from completing the download
- Poor network connection between client and AhsayCBS server
- AhsayACB running on Windows Server OS, i.e. Windows 2008, 2008 R2, 2012, and 2012 R2.
- For Linux/FreeBSD machines, the GNU C or GLIBC library is not installed, version must at least be 2.14
- For FreeBSD machines, OpenJDK8 is not installed
- For Linux/FreeBSD machines, the 'psmisc' package which contains the 'fuser' components for Auto Update to work properly is not installed.
- The **home.txt** file is not present on AhsayOBM / AhsayACB client machine or the home.txt file is empty (does not contain the correct path of the **.obm** or **.acb** folder)
- The AhsayOBM **RunConfigurator.sh** script is running on Linux/FreeBSD

Consult with Ahsay Support if user's device failed to auto update.

7.4 Manual Upgrade AhsayOBM / AhsayACB

If you need to manually upgrade your AhsayOBM /AhsayACB, the instruction will be similar as a brand-new installation. Please refer to our AhsayOBM / AhsayACB Quick Start Guide in the [User Guide webpage](#) for more information.

8 Post Upgrade

8.1 Post Upgrade Notes

8.1.1 Backup Set Index Conversion

A new index system is introduced in AhsayCBS v8.3.0.0 or above to provide better backup performance and robustness. The backup set index conversion will take place for all v6, v7 and pre-v8.3 AhsayOBM/AhsayACB backup sets after upgrading to v8.3.0.0 or above. Index conversion cannot be disabled. An index conversion process will be performed on the backup set on the first backup job immediately after the upgrade. The old v6 files: index.bdb and r-index.bdb will be converted to the new index file structure: index.db* and backupInfo.db*. While the old v7 and pre-v8.3 files: index.b2b*, index.xml* and index-s0* will also be converted to the new index file structure: index.db* and backupInfo.db*. Temporary space needed for index conversion is 200% of the uncompressed index file. You will need 100% for the old index file and another 100% for the new index file. After the index conversion, for large data index the new index will be smaller since duplicated information will be grouped. But for small data index, the new index might be larger since additional information may be included to the new index.

The v8.3 index conversion process may only take a few minutes for backup sets with a small number of files. For example: MS SQL Server, MySQL server, MS Exchange database, Oracle database, VMware, Hyper-V, Windows System State, Windows System backup, Lotus Domino etc.

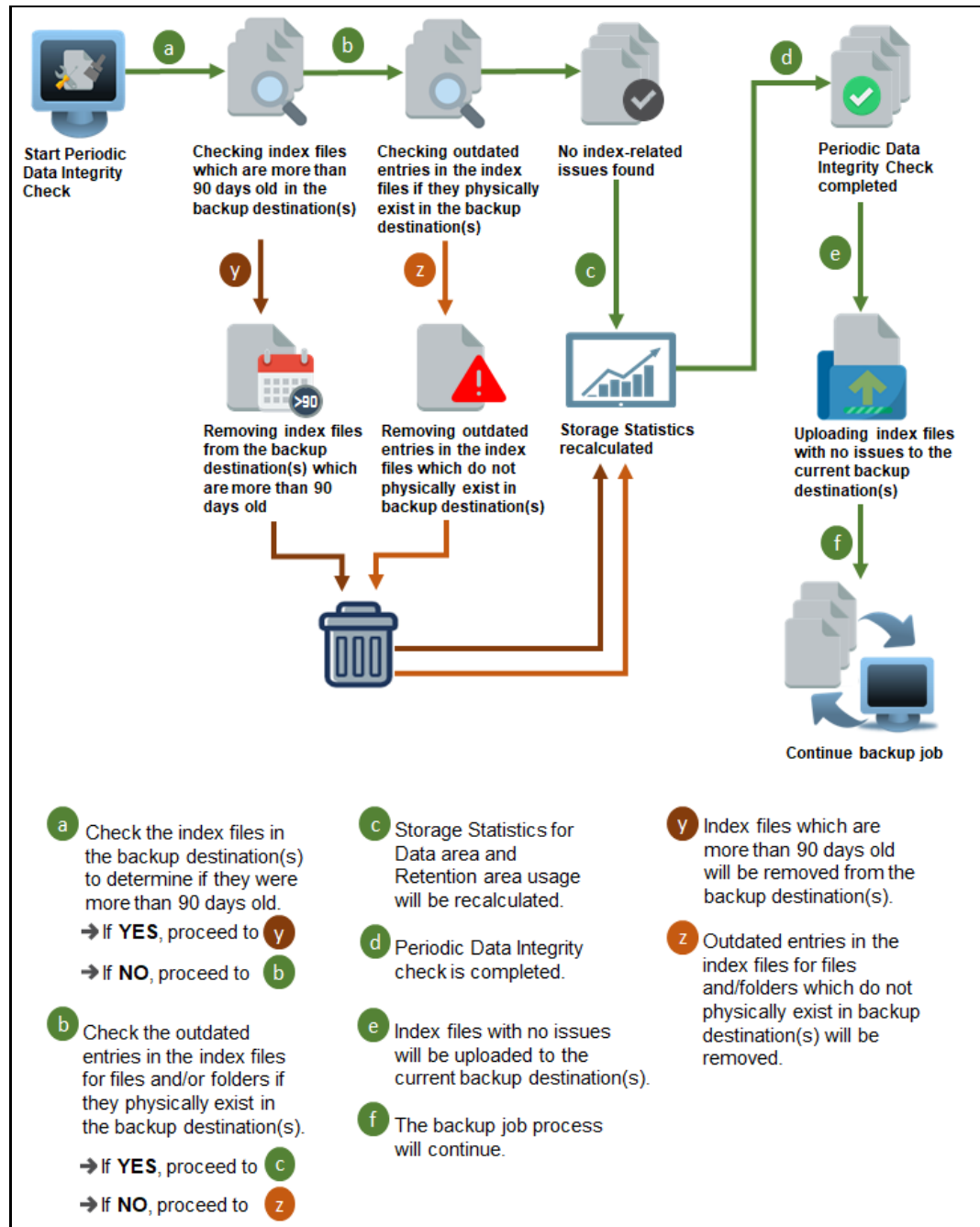
However, for backup sets which could contain large number of files and folders, the v8.3 index conversion process could take several hours to complete. For example: File, Cloud File, MS Exchange mail level and Microsoft 365 backup sets. In some cases, backup sets containing several millions of files/folders could take days to complete the v8.3 index conversion process. Please take this into consideration when planning your AhsayOBM/AhsayACB client upgrade to v8.3.0.0 or above.

Consult the [AhsayCBS Administrator's Guide](#), section **Backup Set Index Conversion** for additional details.

8.1.2 Periodic Data Integrity Check (PDIC)

After AhsayOBM/AhsayACB is upgraded to v8.5.0.0 or above, from v6, v7, or pre-8.3.4.x version; on the first backup job after upgrade, a mandatory PDIC job will be triggered to verify the integrity of the data and index. Depending on the number of files and jobs in the backup set, this process could take some time to complete.

Here is a diagram of the Periodic Data Integrity Check process.



After the mandatory PDIC job, the PDIC will then run on the first backup job that falls on the corresponding day of the week from **Monday to Friday** which is the schedule that will be followed determined automatically by the result of the following formula:

PDIC schedule = %BackupSetID% modulo 5

or

%BackupSetID% mod 5

This schedule was created to minimize the impact of the potential load of large number of PDIC jobs running at the same time on the AhsayCBS server. The calculated result will map to a corresponding day of the week (i.e. from Monday to Friday).

0	Monday
1	Tuesday
2	Wednesday
3	Thursday
4	Friday

NOTE

The PDIC schedule cannot be changed.

Example:

Backup Set ID: 1594627447932

Calculation: 1594627447932 mod 5 = 2

2	Wednesday
---	-----------

In this example:

- The PDIC will run on the first backup job that falls on a Wednesday; or
- If there is no active backup job(s) running from Monday to Friday, then the PDIC will run on the next available backup job.

NOTE

Although the PDIC formula for determining the schedule is %BackupSetID% mod 5, this schedule only applies if the previous PDIC job was actually run more than 7 days prior.

Under certain conditions, the PDIC may not run strictly according to this formula.

For example:

1. If AhsayOBM was upgraded to v8.5 or above from an older version v6, v7, or pre-8.3.6.0 version. In this case, the PDIC job will run on the first backup job after the upgrade.
2. If backup jobs for a backup set are not run on a regular daily backup schedule (for example: on a weekly or monthly schedule), then the PDIC job will run if it detects that the previous PDIC job was run more than 7 days ago.

Consult either the AhsayOBM or AhsayACB Quick Start Guides, section **Periodic Data Integrity Check Process** for additional details.

8.1.3 Mapping of the storage class/region for Google Cloud Storage

The following table shows the mapping for the multi-regional location type before and after v8.5.0.0+ upgrade.

v7 / pre- v8.5.0.0	After Upgrade (AhsayCBS v8.5.0.0 or later)
United States (US)	US (multiple regions in United States)
European Union (EU)	EU (multiple regions in European Union)
Asia	Asia (multiple regions in Asia)

The following table shows the specific locations for each storage class.

Storage Class	Specific Location(s)
Multi-Regional	NAM4 (Iowa and South Carolina) US (multiple regions in United States) EU (multiple regions in European Union) EUR4 (Netherlands and Finland) Asia (multiple regions in Asia)
Regional	North America–Northeast1 (Montreal) South America–East1 (Sao Paulo) US–Central1 (Iowa) US–East1 (South Carolina) US–East4 (Northern Virginia) US–West1 (Oregon) US–West2 (Los Angeles) Europe–North1 (Finland) Europe–West1 (Belgium) Europe–West2 (London) Europe–West3 (Frankfurt) Europe–West4 (Netherlands) Europe–West6 (Zurich) Asia–East1 (Taiwan) Asia–East2 (Hong Kong) Asia–Northeast1 (Tokyo) Asia–Northeast2 (Osaka) Asia–Northeast3 (Seoul) Asia–South1 (Mumbai) Asia–Southeast1 (Singapore) Australia–Southeast1 (Sydney)

<p>Nearline</p>	<p>NAM4 (Iowa and South Carolina) US (multiple regions in United States) North America–Northeast1 (Montreal) South America–East1 (Sao Paulo) US–Central1 (Iowa) US–East1 (South Carolina) US–East4 (Northern Virginia) US–West1 (Oregon) US–West2 (Los Angeles) EU (multiple regions in European Union) EUR4 (Netherlands and Finland) Europe–North1 (Finland) Europe–West1 (Belgium) Europe–West2 (London) Europe–West3 (Frankfurt) Europe–West4 (Netherlands) Europe–West6 (Zurich) Asia (multiple regions in Asia) Asia–East1 (Taiwan) Asia–East2 (Hong Kong) Asia–Northeast1 (Tokyo) Asia–Northeast2 (Osaka) Asia–Northeast3 (Seoul) Asia–South1 (Mumbai) Asia–Southeast1 (Singapore) Australia–Southeast1 (Sydney)</p>
<p>Coldline</p>	<p>NAM4 (Iowa and South Carolina) US (multiple regions in United States) North America–Northeast1 (Montreal) South America–East1 (Sao Paulo) US–Central1 (Iowa) US–East1 (South Carolina) US–East4 (Northern Virginia) US–West1 (Oregon) US–West2 (Los Angeles) EU (multiple regions in European Union) EUR4 (Netherlands and Finland) Europe–North1 (Finland)</p>

	Europe-West1 (Belgium)
	Europe-West2 (London)
	Europe-West3 (Frankfurt)
	Europe-West4 (Netherlands)
	Europe-West6 (Zurich)
	Asia (multiple regions in Asia)
	Asia-East1 (Taiwan)
	Asia-East2 (Hong Kong)
	Asia-Northeast1 (Tokyo)
	Asia-Northeast2 (Osaka)
	Asia-Northeast3 (Seoul)
	Asia-South1 (Mumbai)
	Asia-Southeast1 (Singapore)
	Australia-Southeast1 (Sydney)

8.1.4 Two-Factor Authentication for Twilio users in AhsayCBS v8.5.0.0 or above

Since Mobile Authentication is introduced in AhsayCBS v8.5.0.0 or above to provide additional security for user accounts, Twilio is deprecated; users who are using Twilio Credentials Verification for Two-Factor Authentication may continue using it. Upon upgrade, the existing Twilio Credentials setup will be automatically migrated.

AhsayCBS

General Email Predefined Destinations Administrative Access Languages **Two-Factor Authentication (2FA)**

Configure the settings for two-factor authentication (2FA) below

Mobile Authentication ☐

Twilio Credentials Verification ☒

Account SID
[Redacted]

Auth Token
[Redacted]

Sender
Phone Number United States, Canada (+1) [Redacted]

Test

Passcode length
6

Resend cooldown time
1 Minutes

However, only one type of Two-Factor Authentication may be enabled. You cannot use both at the same time, so you have to choose which type you would use. If you decide to use Mobile Authentication instead, once you enable it, Twilio Credentials Verification will automatically be deleted and it is not possible to re-enable it at a later date.

To enhance security, the recovery email feature for Twilio users has been removed.

It is recommended you convert to TOTP 2FA instead of continued use of Twilio, as Twilio support has ceased.

For more information please refer to the **Twilio** sections found in the [AhsayCBS Administrator's Guide](#).

8.1.5 Run on Server (Agentless) Microsoft 365 and Cloud File backup port requirement

When upgrading AhsayCBS v6, v7 and pre-v8.3.4.42, due to enhancement to the AhsayCBS Run on Server backups an additional connector has been added. The default port 8081 on local IP address 127.0.0.1 is used for Run on Server (Agentless) Microsoft 365 and Cloud File backup. This is automatically setup upon installation but is not visible from System Settings > Basic > General > Connectors to prevent users from editing or deleting it. However, it can be checked in the server.xml file which is located in the \$APPLICATION_HOME\conf folder.

```
<?xml version="1.0" encoding="ISO-8859-1"?>
<Server port="60024" shutdown="SHUTDOWN">
  <Listener className="org.apache.catalina.core.AprLifecycleListener" SSLEngine="on" />
  <Listener className="org.apache.catalina.core.JreMemoryLeakPreventionListener" />
  <Listener className="org.apache.catalina.mbeans.GlobalResourcesLifecycleListener" />
  <Listener className="org.apache.catalina.core.ThreadLocalLeakPreventionListener" />
  <Service name="Catalina">
    <Executor minSpareThreads="1" namePrefix="tomcatThreadPool-http-0.0.0.0-80-"
    name="tomcatThreadPool-http-0.0.0.0-80" maxThreads="200" />
    <Executor minSpareThreads="1" namePrefix="tomcatThreadPool-https-0.0.0.0-443-"
    name="tomcatThreadPool-https-0.0.0.0-443" maxThreads="200" />
    <Executor minSpareThreads="1" namePrefix="runOnServerBackup-http-127.0.0.1-8081-"
    name="runOnServerBackup-http-127.0.0.1-8081" maxThreads="200" />
  <Engine name="Catalina" defaultHost="localhost">
```

If the default port is occupied, then AhsayCBS will automatically acquire the next available free port from 8081 to 9080. If all ports in that range are occupied, then AhsayCBS service is stopped.

8.1.6 Mobile Licensing

To support the new Ahsay Mobile app, the Ahsay Mobile licenses will be listed under **Mobile** Add-on Modules which are free of charge and each license key is assigned an unlimited quota.

The **Mobile** Add-on Modules are required by an AhsayOBM/AhsayACB user if they are using the Ahsay Mobile app for Android and iOS backups. If the Ahsay Mobile app is only used for Two-Factor Authentication (2FA) purposes, then the Mobile license modules are not required.

Client Add-on Modules	Quota	Used	Available
Microsoft Exchange Mailbox (Per Mailbox)	5	0	5
Hyper-V / VMware (Per Guest VM)	10	0	10
Hyper-V / VMware (Per Socket)	10	0	10
NAS - Synology / NAS - QNAP	10	1	9
Mobile	Unlimited	20	Unlimited
Office 365	10	0	10
OpenDirect / Granular Restore	5	0	5

Each AhsayOBM/AhsayACB user account is currently limited to 10 Mobile CALs.

Backup Client
☒ AhsayOBM User ☐ AhsayACB User

Add-on Modules

<input checked="" type="checkbox"/> Microsoft Exchange Server	<input checked="" type="checkbox"/> Microsoft SQL Server
<input checked="" type="checkbox"/> MySQL Database Server	<input checked="" type="checkbox"/> Oracle Database Server
<input type="checkbox"/> Lotus Domino	<input type="checkbox"/> Lotus Notes
<input checked="" type="checkbox"/> Windows System Backup	<input checked="" type="checkbox"/> Windows System State Backup
<input type="checkbox"/> VMware <input type="text" value="Guest VM"/> <input type="text" value="0"/>	<input type="checkbox"/> Hyper-V <input type="text" value="Guest VM"/> <input type="text" value="0"/>
<input type="checkbox"/> Microsoft Exchange Mailbox <input type="text" value="0"/>	<input type="checkbox"/> ShadowProtect System Backup
<input type="checkbox"/> NAS - QNAP	<input type="checkbox"/> NAS - Synology
<input checked="" type="checkbox"/> Mobile (max. 10)	<input checked="" type="checkbox"/> Continuous Data Protection
<input checked="" type="checkbox"/> Volume Shadow Copy	<input checked="" type="checkbox"/> In-File Delta
<input type="checkbox"/> OpenDirect / Granular Restore <input type="text" value="0"/>	<input checked="" type="checkbox"/> Office 365 Backup <input type="text" value="10"/>
<input checked="" type="checkbox"/> MariaDB Database Server	

(Note: Screenshot is from v8.5)

NOTE


The Mobile Add-on Module is only for mobile backup and it does not apply the use of Ahsay Mobile as a Two-Factor Authentication (2FA) tool.

8.1.7 Backup and Restore Reports

The composition of email reports that will be sent has changed starting with AhsayCBS v8.5.2.42 or above. If the size of the PDF report is less than 10MB, the PDF report will be attached in the email. However, if the size of the PDF report is greater than 10MB (fixed), the PDF report will not be attached in the email. Instead, a download link will be available for the user to download the PDF report. This fixed 10MB value limit is not customizable.

This was changed to ensure that emails will be received by the user by making sure that it will not be blocked by SMTP server due to email size is too big. This will also help in managing the capacity of the clients' mailbox by making sure that the email sent does not take up too much space.

Here is a sample of an email that will be received if the PDF report is less than 10MB.



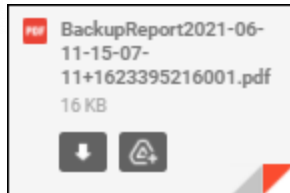
Dear user,

Here is the summary of your backup job "2021-06-11-15-07-11". Full backup report is also attached for your reference.

Backup Job Summary

User	user
Backup Set	BackupSet-1
Destination	Local-1
Data Size	437K
Retention Size	0
Backup Quota	Unlimited
Remaining Quota	Unlimited
Backup Job	2021-06-11-15-07-11
Job Status	OK
Backup Time	06/11/2021 15:07:11 CST - 06/11/2021 15:07:33 CST
IP Address	192.168.12.1 (DESKTOP-I7U6970)
New Files	31(437.9K)
New Directories	5
New Links	0
Updated Files	0(0)
Attributes Changed Files	0(0)
Deleted Files	0(0)
Deleted Directories	0
Deleted Links	0
Moved Files	0(0)

Sincerely
Ahsay Support Team



And here is a sample of an email that will be received if the PDF report is greater than 10MB.



Dear user,

Here is the summary of your backup job "2021-06-14-10-57-36". The full PDF report can be downloaded in the link(s) below:

- [Local-1 \(Local / Mapped Drive / Removable Drive\)](#)

Backup Job Summary

User	user
Backup Set	BackupSet-2
Destination	Local-1
Data Size	1.52G
Retention Size	0
Backup Quota	Unlimited
Remaining Quota	Unlimited
Backup Job	2021-06-14-10-57-36
Job Status	OK
Backup Time	06/14/2021 10:57:37 CST - 06/14/2021 11:18:27 CST
IP Address	192.168.12.1 (DESKTOP-I7U6970)
New Files	300000(1.5G)
New Directories	2
New Links	0
Updated Files	0(0)
Attributes Changed Files	0(0)
Deleted Files	0(0)
Deleted Directories	0
Deleted Links	0
Moved Files	0(0)

Sincerely
Ahsay Support Team

8.1.8 Multiple Threads Replication

The calculation for maximum number of replication threads has been changed starting from AhsayCBS v8.3.2.11 or onwards. Instead of using the number of CPU cores in the calculation, this is replaced by the number of CPU sockets. The new formula is:

Maximum number of replication threads = total number of CPU sockets

For example, an AhsayCBS server with 2 CPU's will have a maximum of two concurrent replication threads.

This is different from the previous AhsayCBS versions where the number of CPU cores determines the maximum number of replication threads. The formula for previous AhsayCBS versions is:

Number of concurrent backup set to replicate = [Total CPU Cores] / 8

For example, an AhsayCBS server with 8 CPU cores will have a maximum of one concurrent replication thread.

The minimum number of replication thread is 1 while the maximum is 4.

The previous calculation method meant a higher number of replication threads were available. However, on some low-mid range server hardware and storage configurations this had a negative impact on AhsayCBS backup server due to an increased server load, which ultimately affected overall server performance (backup, restore and replication).

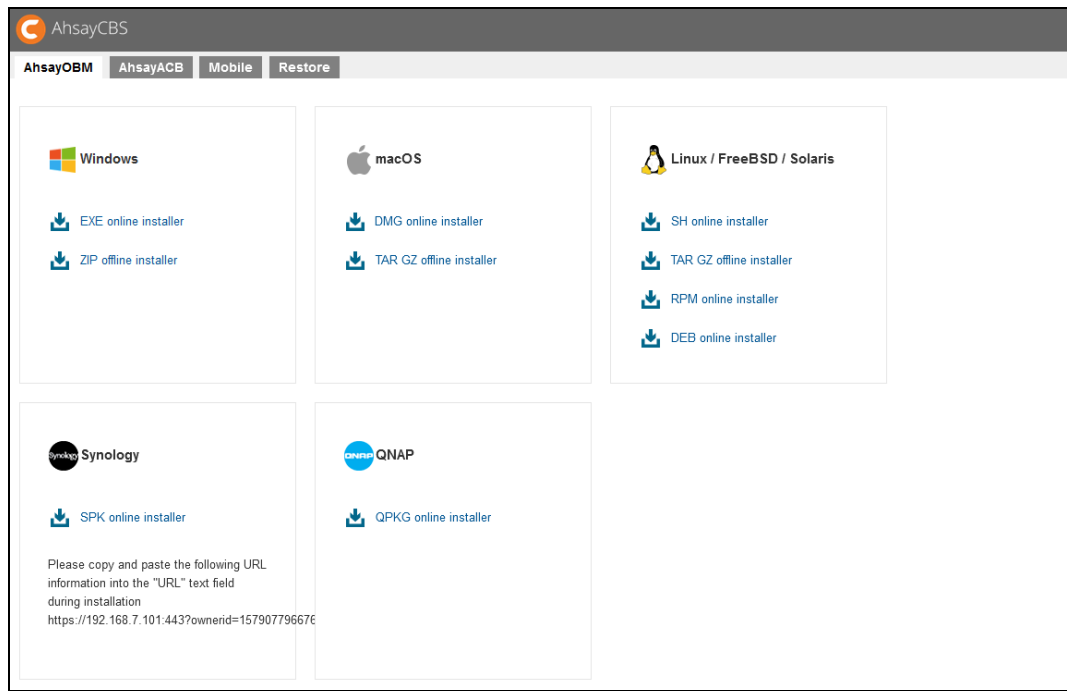
NOTE

If you are upgrading to v8.3.2.11 (or higher) from: v7, 8.1.x, or 8.3.0.x, and using default setting for replication thread calculation. Then the number of replication threads will be significantly reduced which may have an impact on replication performance. For example, if AhsayCBS v7, 8.1.x, 8.3.0.x was enabled with replication on a server with single socket CPU with 8 cores. The default number of replication threads = 4, however after upgrade the default number of replication threads = 1 based on the new per CPU socket calculation.

There is an option to increase the maximum number of replication threads to equal the number of CPU cores for underutilized AhsayCBS backup servers running on high performance hardware and storage configurations with spare network bandwidth capacity. For example, an AhsayCBS server with a single CPU with 8 cores, will be able to get up to 8 concurrent replication threads. For more information regarding this please refer to Chapter 7 of the [AhsayCBS Administrator's Guide](#).

8.1.9 AhsayCBS Download Page

With the release of AhsayCBS v8.5.2.0 and above, the layout of the installer download page has been improved for better clarity with the supported installer type listed.



The screenshot shows the AhsayCBS download page with a navigation bar containing 'AhsayOBM', 'AhsayACB', 'Mobile', and 'Restore'. The main content area is divided into five sections for different operating systems and storage solutions:

- Windows:** EXE online installer, ZIP offline installer.
- macOS:** DMG online installer, TAR GZ offline installer.
- Linux / FreeBSD / Solaris:** SH online installer, TAR GZ offline installer, RPM online installer, DEB online installer.
- Synology:** SPK online installer.
- QNAP:** QPKG online installer.

Below the Synology section, there is a note: "Please copy and paste the following URL information into the 'URL' text field during installation https://192.168.7.101:443?ownerid=157907796676".

NOTE

For more details on the new AhsayCBS Download page, refer to the [AhsayCBS Administrator's Guide](#):

- Chapter 10.9 – AhsayCBS Download Page – Customization and Limitations
- Appendix S – AhsayCBS Download Page – Customization Instructions

8.1.10 V6 Backup Set Data Migration

Legacy v6 Backup Data Migration page has been removed. AhsayCBS v9 will automatically convert v6 backup data, to the v9 AhsayCBS Blocks data format (32MB/64MB), for any user's backup sets running on v9 OBM/ACB client. You should closely monitor your User Home disk usage, as there is no control to suspend/pause/exclude v6 Backup Set conversion, and it will require 150% in temporary free disk space of the User Home storage. Any previously excluded Backup Sets will become Enabled, and conversion will proceed when user is running v9 client.

8.1.11 CBS.DB

Starting with AhsayCBS v9.1, Auto Update settings are stored in **%AhsayCBS_HOME%/conf/cbs.db**, along with pending email reports, computer information, Run on Server job status.

8.1.12 Branding Profile

Starting with AhsayCBS v9.5, branding profiles stored in **%AhsayCBS_HOME%/conf/Branding/*.json** has been replaced with **%AhsayCBS_HOME%/conf/cbs.db** and **%AhsayCBS_HOME%/conf/Branding/{ID}** (where {ID} is "ROOT" or the SubAdmin ID#)

8.2 Deduplication

Starting with Ahsay v9, the In-File Delta feature (that offers Incremental, Differential, and Full backups) will be replaced with Deduplication.

Deduplication is part of the backup process that identifies and eliminates duplicate copies of repeating data, storing it once, in order to save storage space. Deduplication plays a major role in managing storage space, particularly when performed over large volumes of data.

With it enabled, your user's backup data will be optimized, and you will see significant storage usage decrease when compared to previous CBS version, resulting in more data stored and better storage ROI.

With it disabled, backup data will be similar to Full backup jobs.

Deduplication is an assignable CBS standard license module, and Deduplication module applied per User by default.

More details are found in [Ahsay v9 New Features and Datasheet](#), or [AhsayCBS Administrator's Guide](#).

8.2.1 “Migrate Data” Migration for v9 Deduplication Compatibility

Migrate Data is the conversion of pre-CBS9 data blocks from CBS v7 / v8 Backup Sets now running on v9 client (OBM/ACB). For users still running pre-CBS v9 agents, they will continue to use In-File Delta technology (Full/Incremental/Differential) and Migrate Data does not apply.

“Migrate Data” for v9 Deduplication, will reupload changed Source data at time of backup storing the reupload as v9 data blocks. It will temporarily require up to double the destination's storage to convert pre-CBS9 data blocks into the new v9 Deduplication-compatible blocks. Source data that is unchanged, will not be reuploaded therefore not use additional space, and remain as pre-CBS9 data blocks as no Migrate Data will take place for already backed up data. Both pre-CBS9 and CBS9 data blocks can be used during Restore jobs.

CBS Admin should monitor user's storage Quota, which will be affected by the increased usage caused by Migrate Data.

Temporary space that was used for Migrate Data will be reclaimed according to the backup set's Retention Policy cleanup setting. For backup sets with long Retention history, the storage cannot be reclaimed until the threshold has exceeded. This should be considered when users have lengthy Retention Policies.

8.3 Setting up memory for Run on Server (Agentless) Backups

Starting with AhsayCBS v8.3.4.0 or above, the Run on Server (Agentless) Microsoft 365 and Cloud File backup job has its own Java process independent from the main AhsayCBS Java process. For upgraded AhsayCBS with existing Run on Server Microsoft 365 and Cloud File backup sets it is strongly recommended to:

- Reduce the Java heap size of the main AhsayCBS Java process to free up memory so it can be re-allocated to the individual Run on Server (Agentless) Microsoft 365 and Cloud File backup job. For information on how to do this, please refer to this wiki [FAQ: How to modify the Java heap size of AhsayCBS](#).
- Setup Java heap size for the individual Run on Server (Agentless) Microsoft 365 and Cloud File backup jobs if required. In general, the default setting 2048M or 2GB of maximum Java heap size and 128MB of minimum Java heap size should be adequate. To change the Java heap size setting of individual Run on Server (Agentless) Microsoft 365 backup job, please refer to this wiki [FAQ: How to modify the Java heap size setting for Run on Server Office / Microsoft 365 backup job](#).

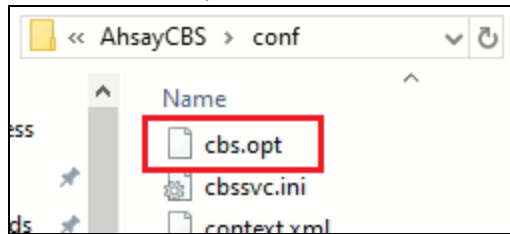
However, if the default settings are not adequate, the maximum and minimum Java heap size for each Run on Server backup Java process can be configured by the system administrator by following the instructions below.

Following pages shows examples to configure:

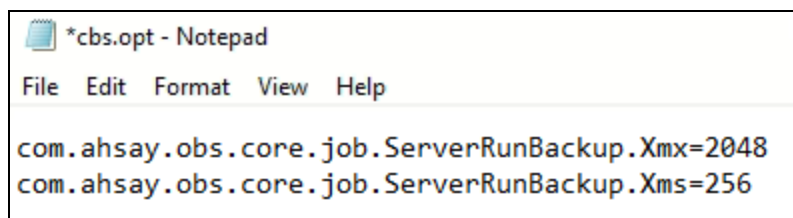
In the examples, 2048 (maximum) and 256 (minimum) Java heap size. The size of the Java memory that you will set for each backup job depends on the number of Microsoft 365 user selected in your backup sets and how much RAM your system has

In Windows:

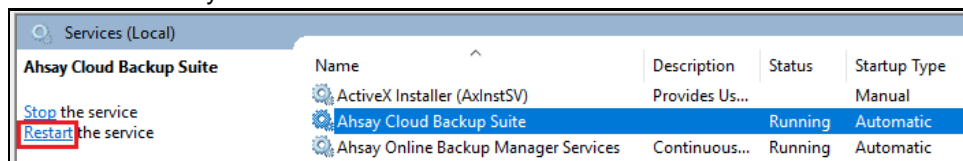
1. Locate the cbs.opt file in the \$APPLICATION_HOME\conf folder.



2. Open the file, add the option
"com.ahsay.obs.core.job.ServerRunBackup.Xmx=%value%" and
"com.ahsay.obs.core.job.ServerRunBackup.Xms=%value%" then save.



3. Restart the AhsayCBS service.



For more information regarding the Run on Server backup Java process please refer to the [AhsayCBS Quick Start Guide](#) and [AhsayCBS Administrator's Guide](#).

In Linux/FreeBSD:

1. Locate the cbs.opt file in the /usr/local/cbs/conf folder.

```
# cd /usr/local/cbs/conf
# ls -la
total 896
drwxr-xr-x.  3 root root   4096 Jul  3 17:45 .
drwxr-xr-x. 22 root root   4096 Jul  3 11:59 ..
-rwxr-xr-x.  1 root root    316 Oct 16  2014 acb-config.xml
-rwxr-xr-x.  1 root root   4961 Jun 28  2017 afc.opt
-rwxr-xr-x.  1 root root     70 May 23  2008 autoDiscovery.xml
-rwxr-xr-x.  1 root root   1152 Jul  3 12:46 autoUpdate.bdb
-rwxr-xr-x.  1 root root   1952 Apr  4  2014 ca.crt
-rwxr-xr-x.  1 root root     0 Feb 23  2015 Catalina
-rwxr-xr-x.  1 root root  12505 May 19  2014 catalina.policy
-rwxr-xr-x.  1 root root  12839 Jun 16 16:03 catalina.properties
-rwxr-xr-x.  1 root root  19366 Jul  3 15:15 cbs.json
-rwxr-xr-x.  1 root root  19371 Jul  3 15:15 cbs.json.1
-rwxr-xr-x.  1 root root  19649 Jul  3 12:27 cbs.json.10
-rwxr-xr-x.  1 root root  19649 Jul  3 12:27 cbs.json.11
-rwxr-xr-x.  1 root root  19371 Jul  3 14:25 cbs.json.2
-rwxr-xr-x.  1 root root  19375 Jul  3 14:25 cbs.json.3
-rwxr-xr-x.  1 root root  19375 Jul  3 14:21 cbs.json.4
-rwxr-xr-x.  1 root root  19374 Jul  3 14:21 cbs.json.5
-rwxr-xr-x.  1 root root  19657 Jul  3 13:58 cbs.json.6
-rwxr-xr-x.  1 root root  19653 Jul  3 13:58 cbs.json.7
-rwxr-xr-x.  1 root root  19653 Jul  3 13:50 cbs.json.8
-rwxr-xr-x.  1 root root  19649 Jul  3 13:50 cbs.json.9
-rwxr-xr-x.  1 root root   9667 Jul  3 14:17 cbs.opt
```

2. Open the file, using a text editor add the option
"com.ahsay.obs.core.job.ServerRunBackup.Xmx=%value%" and
"com.ahsay.obs.core.job.ServerRunBackup.Xms=%value%" then save.

```
com.ahsay.obs.core.job.ServerRunBackup.Xmx=2048
com.ahsay.obs.core.job.ServerRunBackup.Xms=256
```

3. Restart the AhsayCBS service

```
# cd /usr/local/cbs/bin
# sh restart.sh
```

For more information regarding the Run on Server backup Java process please refer to the [AhsayCBS Quick Start Guide](#) and [AhsayCBS Administrator's Guide](#).

In AhsayUBS:

1. Locate the cbs.opt file in the /ubs/mnt/eslsfw/obsr/conf folder.

```
# cd /ubs/mnt/eslsfw/obsr/conf
# ls -la
total 925
drwxr-xr-x  3 root  wheel    142 Jul  9 02:15 .
drwxr-xr-x 13 root  wheel     13 Jul  8 08:25 ..
-rwxr-xr-x  1 root  wheel    316 Nov 19 2018 acb-config.xml
-rwxr-xr-x  1 root  wheel   4966 Jul  8 08:35 afc.opt
-rwxr-xr-x  1 root  wheel     70 Nov 19 2018
autoDiscovery.xml
-rwxr-xr-x  1 root  wheel   1152 Jul  8 08:48 autoUpdate.bdb
-rwxr-xr-x  1 root  wheel   1952 Nov 19 2018 ca.crt
-rwxr-xr-x  1 root  wheel     0 Nov 19 2018 Catalina
-rwxr-xr-x  1 root  wheel  12505 Nov 19 2018 catalina.policy
-rwxr-xr-x  1 root  wheel   8008 Nov 19 2018
catalina.properties
-rwxr-xr-x  1 root  wheel  19671 Jul  8 10:25 cbs.json
-rwxr-xr-x  1 root  wheel  19672 Jul  8 10:25 cbs.json.1
-rwxr-xr-x  1 root  wheel  18755 Jul  8 08:43 cbs.json.10
-rwxr-xr-x  1 root  wheel  19028 Jul  8 08:28 cbs.json.11
-rwxr-xr-x  1 root  wheel  19672 Jul  8 09:09 cbs.json.2
-rwxr-xr-x  1 root  wheel  19672 Jul  8 09:09 cbs.json.3
-rwxr-xr-x  1 root  wheel  19373 Jul  8 08:46 cbs.json.4
-rwxr-xr-x  1 root  wheel  19169 Jul  8 08:46 cbs.json.5
-rwxr-xr-x  1 root  wheel  19169 Jul  8 08:44 cbs.json.6
-rwxr-xr-x  1 root  wheel  19208 Jul  8 08:44 cbs.json.7
-rwxr-xr-x  1 root  wheel  19208 Jul  8 08:43 cbs.json.8
-rwxr-xr-x  1 root  wheel  18958 Jul  8 08:43 cbs.json.9
-rwxr-xr-x  1 root  wheel   9666 Jul  8 08:54 cbs.opt
```

2. Open the file, using a text editor add the option
"com.ahsay.obs.core.job.ServerRunBackup.Xmx=%value%" and
"com.ahsay.obs.core.job.ServerRunBackup.Xms=%value%" then save.

```
com.ahsay.obs.core.job.ServerRunBackup.Xmx=2048
com.ahsay.obs.core.job.ServerRunBackup.Xms=256
```

3. Restart the AhsayCBS service

```
# cd /ubs/mnt/esfmfw/obsr/system/obsr/bin
# sh restart.sh
```

For more information regarding the Run on Server backup Java process please refer to the [AhsayCBS Quick Start Guide](#) and [AhsayCBS Administrator's Guide](#).

8.4 Re-authorize Dropbox app

Due to the update of OAuth 2.0 API by Dropbox Inc. these changes have been updated in AhsayCBS v8.5.4.54 or above in respect to handling of existing destination and backup source using Dropbox. For Dropbox predefined and standard storage destinations created on pre-v8.5.4.54 AhsayCBS/AhsayOBM/AhsayACB, as well as Cloud File backup sets for Dropbox, you need to re-authorize the app to continue using it. All related backup/restore will no longer work properly until it is re-authorized.

Here are four ways to do this:

- [from the Predefined Destination page](#)
- [from the Cloud File Agentless backup set using Dropbox as a backup source](#)
- [from Backup Sets page in AhsayOBM/AhsayACB when using Dropbox as a backup source](#)
- [from Backup Sets page in AhsayOBM/AhsayACB when using Dropbox as a standard destination](#)

8.4.1 Re-authorize in Predefined Destination page

You may check in the **Monitoring > Dashboard > To Dos** if there are any invalid Dropbox predefined destination that needs to be re-authorized.

The screenshot shows the AhsayCBS Monitoring Dashboard. At the top, there are tabs for 'To Dos', 'Overview', 'CPU', 'Memory', 'Storage', and 'Live Threads'. A red box highlights a 'Warning' message: 'Dropbox API requirements have been updated. Please visit the [System Settings] > [Predefined Destination] page to complete the setup.' Below this, there is a section titled 'Errors and Warnings' with a dropdown menu set to 'Yesterday'. This section contains six cards: 'Missed Backups' (0), 'Failed Backups' (0), 'System Errors' (2), 'Replication Errors' (0), 'API Errors' (0), and 'Email Errors' (0). Below the cards is a table with columns: 'Timestamp', 'Login Name', 'Owner', and 'Message'. The table shows two entries for the date 09/06/2021. The bottom right corner of the dashboard has a dark bar with an 'X' and a '?' icon.

Timestamp	Login Name	Owner	Message
09/06/2021 17:27:39	--	--	null [ConcurrentModificationException] null
09/06/2021 17:21:29	--	--	[UserGroupXmlParser.migrate2V7UserGroups] Failed to write 'C:\Program Files\AhsayCBS\system\obs\policies\userGroup.xml'

You may click the [\[System Settings\] > \[Predefined Destination\]](#) link to be redirected to the Predefined Destination page.

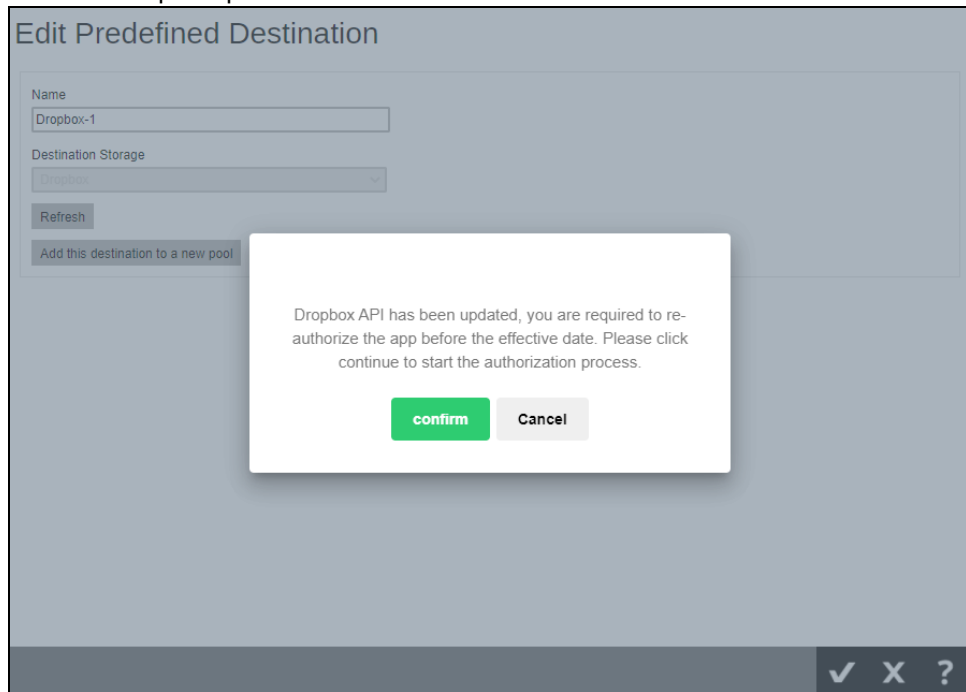
Or you may go to **System Settings > Basic > Predefined Destinations**. A warning icon will be displayed beside the invalid Dropbox predefined destination.

The screenshot shows the AhsayCBS Predefined Destinations page. At the top, there are tabs for 'General', 'Email', 'Predefined Destinations', 'Administrative Access', 'Languages', and 'Two-Factor Authentication (2FA)'. Below the tabs, there is a section titled 'Predefined Destination' with a '+' and a trash icon. Below this is a table with columns: 'Name', 'Destination Storage', 'Info', and 'Owner'. The table lists three destinations: 'GoogleDrive-1' (Google Drive), 'Dropbox-1' (Dropbox) with a warning icon, and 'OneDrive-1' (OneDrive). The bottom right corner of the page has a dark bar with a green 'Add' button, an 'X' button, and a '?' button.

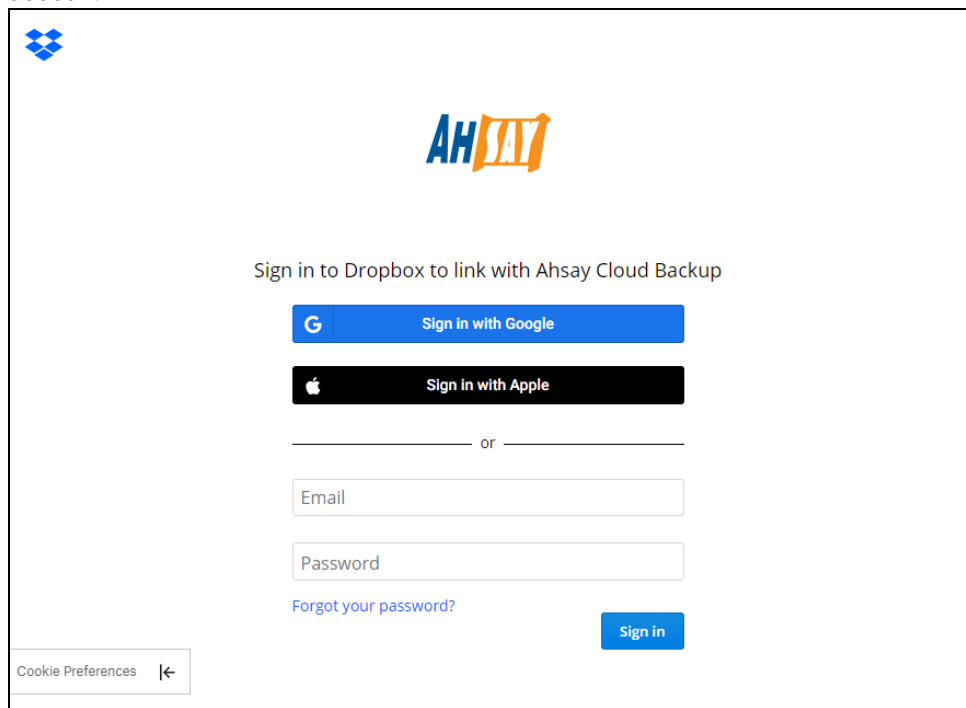
<input type="checkbox"/>	Name	Destination Storage	Info	Owner
<input type="checkbox"/>	GoogleDrive-1	Google Drive	Google Account: [redacted]	
<input type="checkbox"/>	Dropbox-1	Dropbox	Dropbox Account: [redacted]	
<input type="checkbox"/>	OneDrive-1	OneDrive	Microsoft Account: [redacted]	

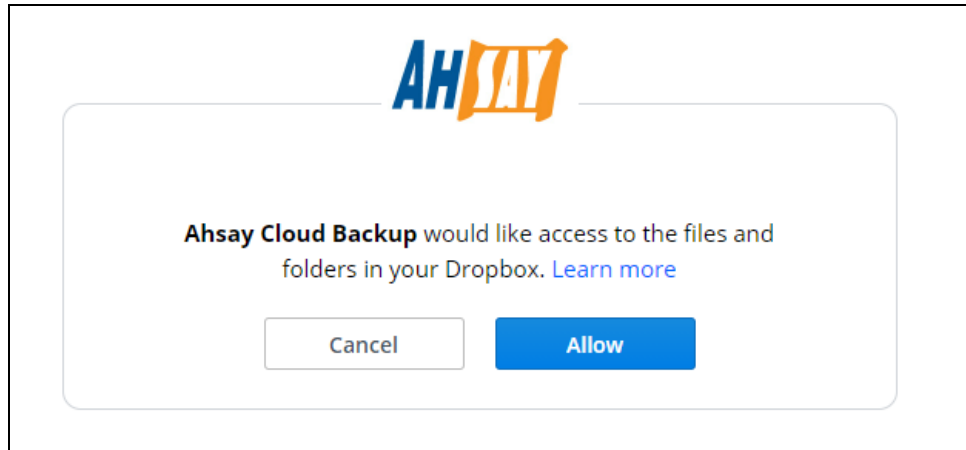
Follow the instructions below to re-authorize your Dropbox predefined destination:

1. Click the Dropbox predefined destination. Click **confirm** to continue.

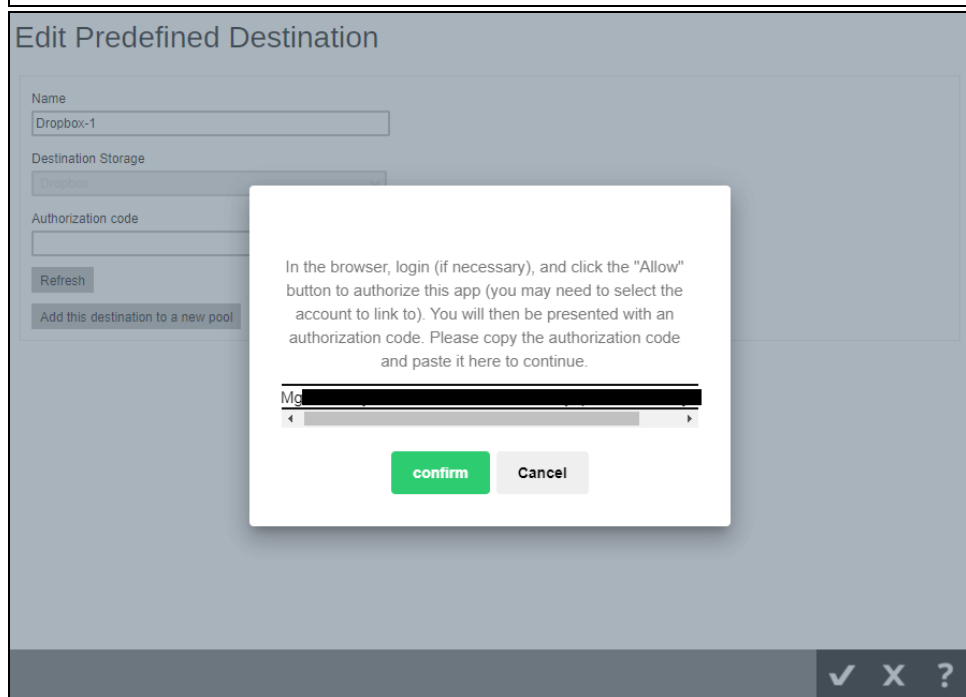
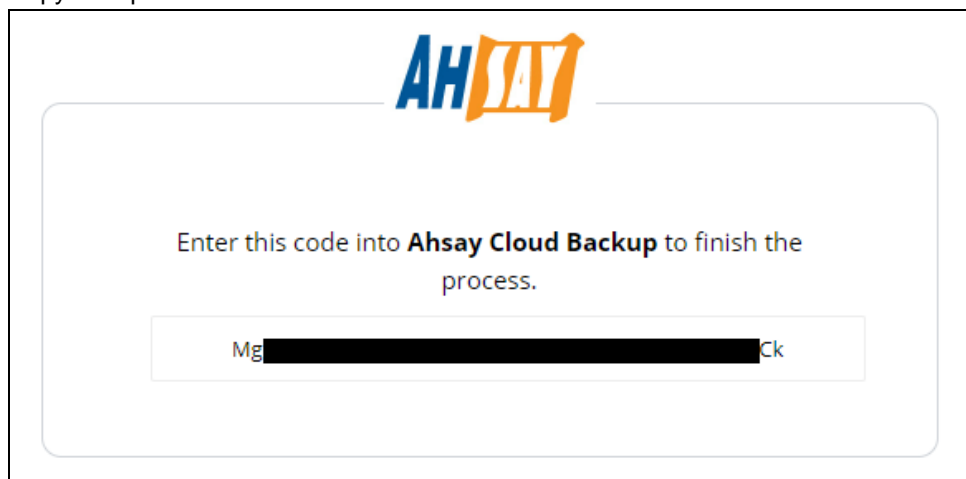


2. Login to your Dropbox account and allow Ahsay access to the files and folders in your account.





3. Copy and paste the code and click **confirm** to continue.



4. The warning icon will now be removed, click **Save** to finish setup.

AhsayCBS

General Email **Predefined Destinations** Administrative Access Languages Two-Factor Authentication (2FA)

Configure the predefined destinations that can be used by this server below.

Predefined Destination ?

+ -

<input type="checkbox"/>	Name	Destination Storage	Info	Owner
<input type="checkbox"/>	GoogleDrive-1	Google Drive	Google Account: [REDACTED]	
<input type="checkbox"/>	Dropbox-1	Dropbox	Dropbox Account: [REDACTED]	
<input type="checkbox"/>	OneDrive-1	OneDrive	Microsoft Account: [REDACTED]	

Save X ?

The warning will also be gone from the **To Dos** page.

AhsayCBS

To Dos Overview CPU Memory Storage **Live Threads**

Errors and Warnings

Yesterday

Missed Backups	Failed Backups	System Errors	Replication Errors	API Errors	Email Errors
0	0	2	0	0	0

View 25 Rows/Page

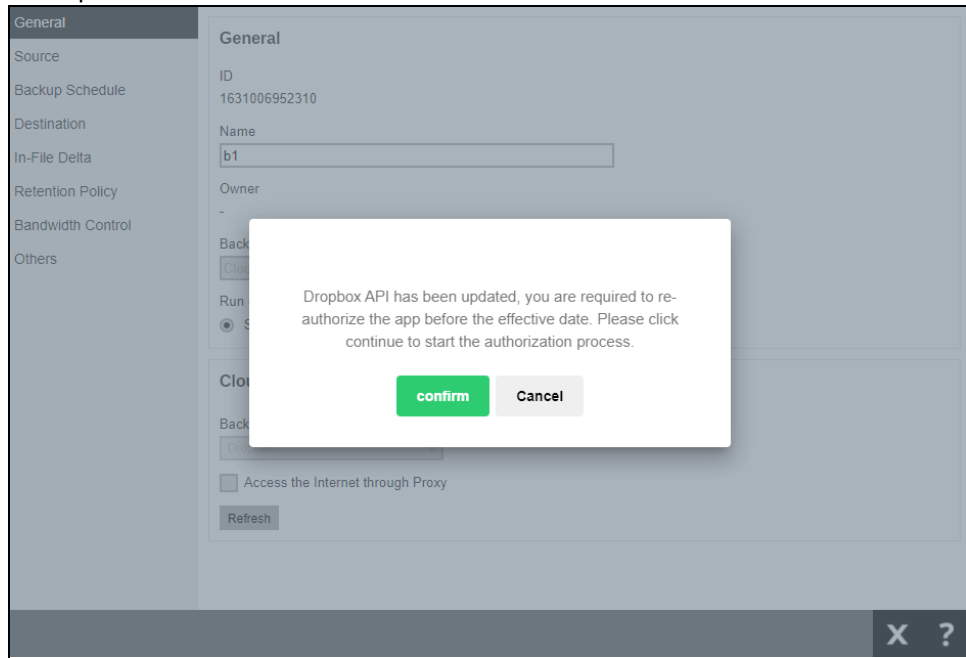
Timestamp	Login Name	Owner	Message
09/06/2021 17:27:39	--	--	null [ConcurrentModificationException] null
09/06/2021 17:21:29	--	--	[UserGroupXmlParser.migrate2V7UserGroups] Failed to write 'C:\Program Files\AhsayCBS\system\obs\policies\userGroup.xml'

X ?

8.4.2 Re-authorize in Cloud File Agentless backup set using Dropbox as a backup source

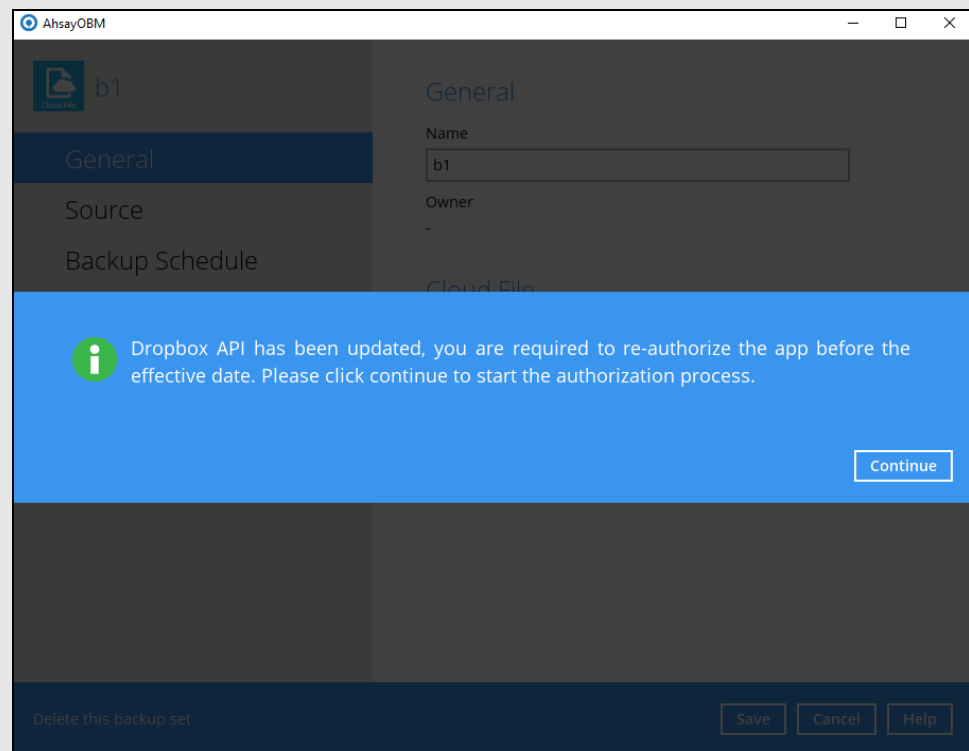
Re-authorizing Dropbox for Cloud File Agentless backup sets may be done in AhsayCBS or AhsayOBM/AhsayACB.

1. A warning will be displayed when you try to access a backup set using Dropbox as a backup source. Click **confirm** to continue.

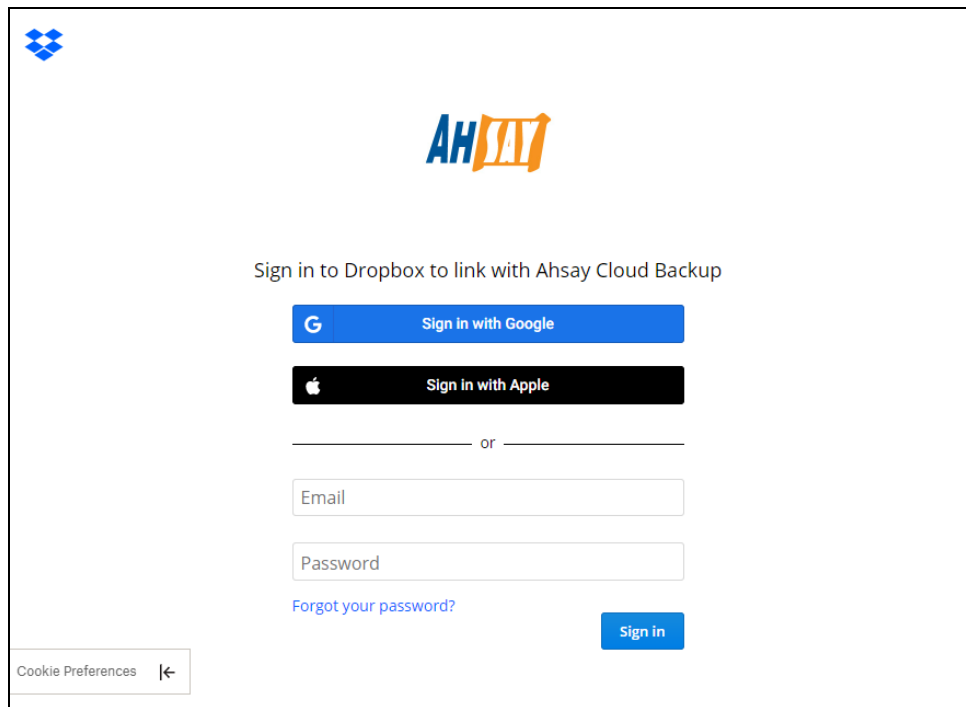


NOTE

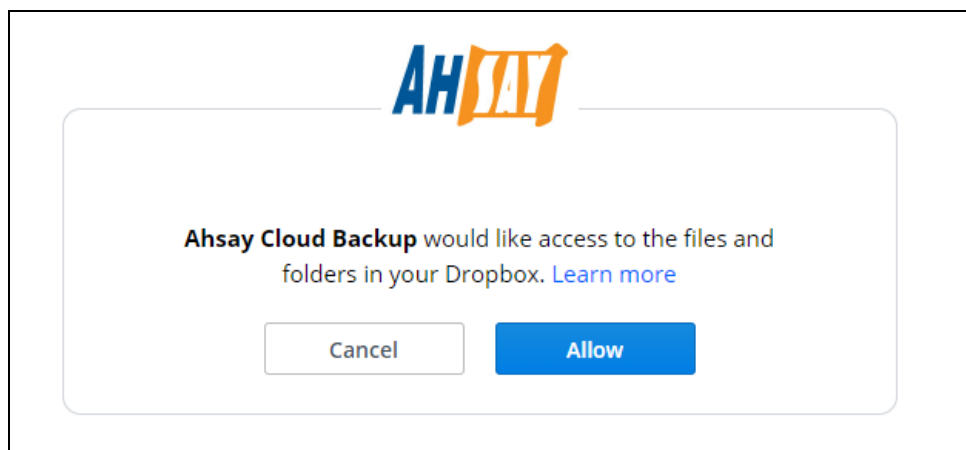
This warning will also be displayed if you access the backup set in AhsayOBM/AhsayACB.



2. Login to your Dropbox account and allow Ahsay access to the files and folders in your account.

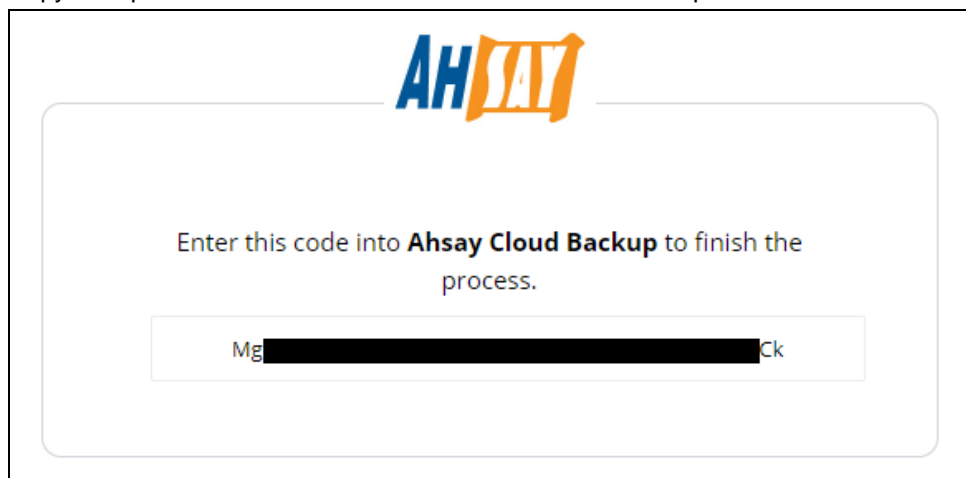


The screenshot shows the Ahsay Cloud Backup login interface. At the top is the Ahsay logo. Below it, the text reads "Sign in to Dropbox to link with Ahsay Cloud Backup". There are two primary login buttons: "Sign in with Google" (blue) and "Sign in with Apple" (black). Below these is a horizontal line with the word "or" in the center. Underneath the line are two input fields labeled "Email" and "Password". A link "Forgot your password?" is positioned below the password field. A "Sign in" button is located at the bottom right. In the bottom left corner, there is a "Cookie Preferences" link with a left-pointing arrow.

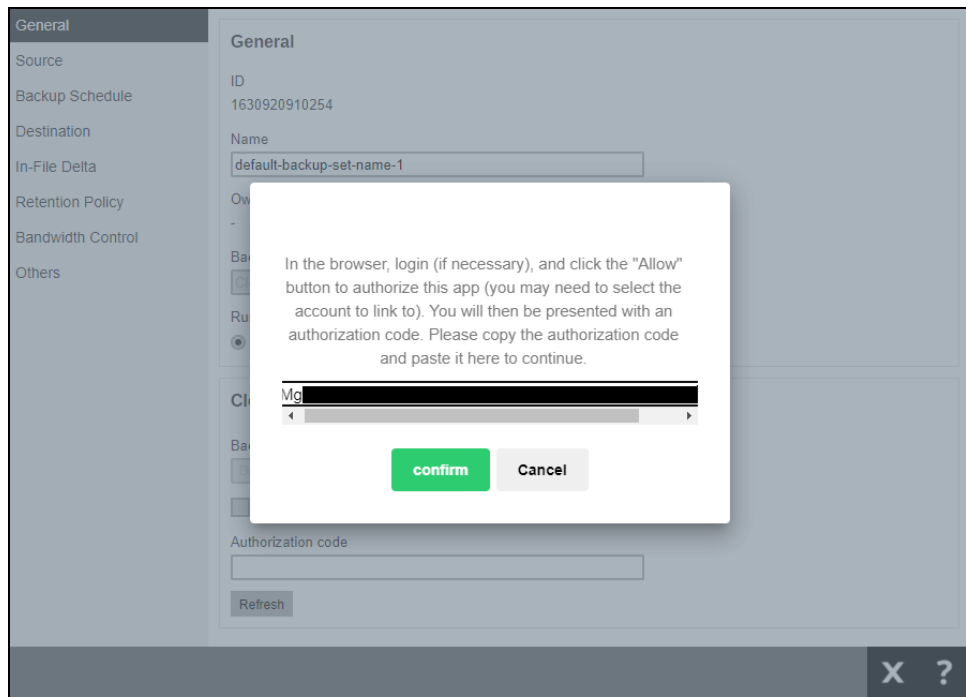


The screenshot shows a permission request dialog from Dropbox. At the top is the Ahsay logo. The main text says "Ahsay Cloud Backup would like access to the files and folders in your Dropbox. [Learn more](#)". At the bottom, there are two buttons: "Cancel" (light gray) and "Allow" (blue).

3. Copy and paste the code. Click **confirm** to finish the setup.



The screenshot shows the Ahsay Cloud Backup code entry screen. At the top is the Ahsay logo. The main text says "Enter this code into Ahsay Cloud Backup to finish the process." Below this is a text input field. The field contains the text "Mg" followed by a blacked-out code, and ends with "Ck".



8.4.3 Re-authorize in Backup Sets page in AhsayOBM/AhsayACB when using Dropbox as a backup source

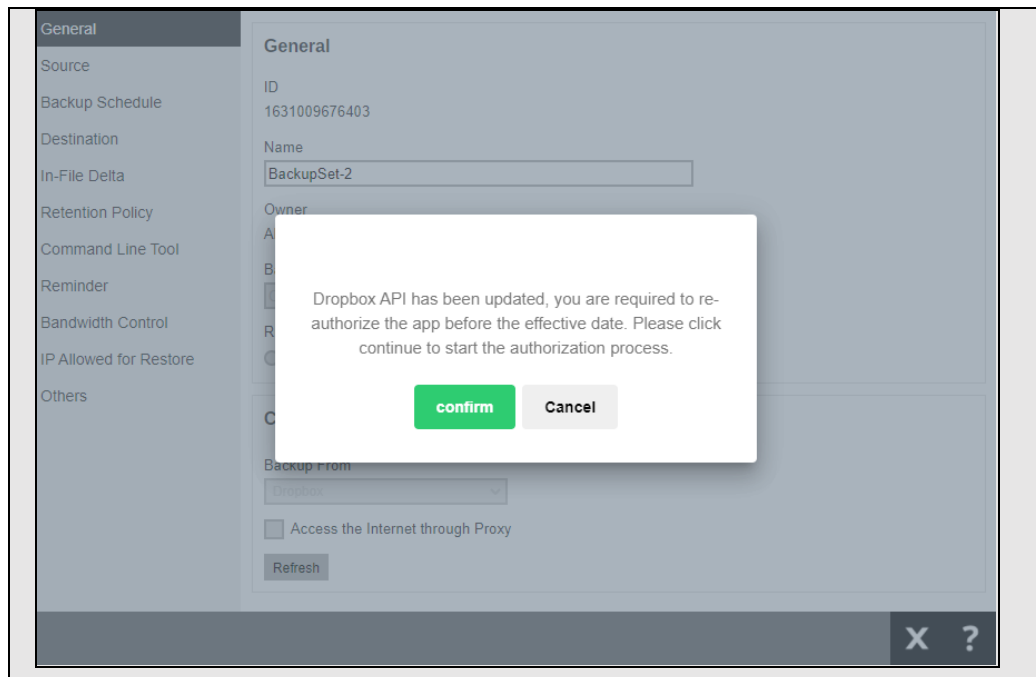
Re-authorizing Dropbox for Cloud File Agent-based backup sets may be done in AhsayOBM/AhsayACB or AhsayCBS. Steps in doing this is similar for AhsayOBM and AhsayACB, we will be using AhsayOBM as an example for the instructions.

1. A warning will be displayed when you try to access a backup set using Dropbox as a backup source. Click **Continue**.

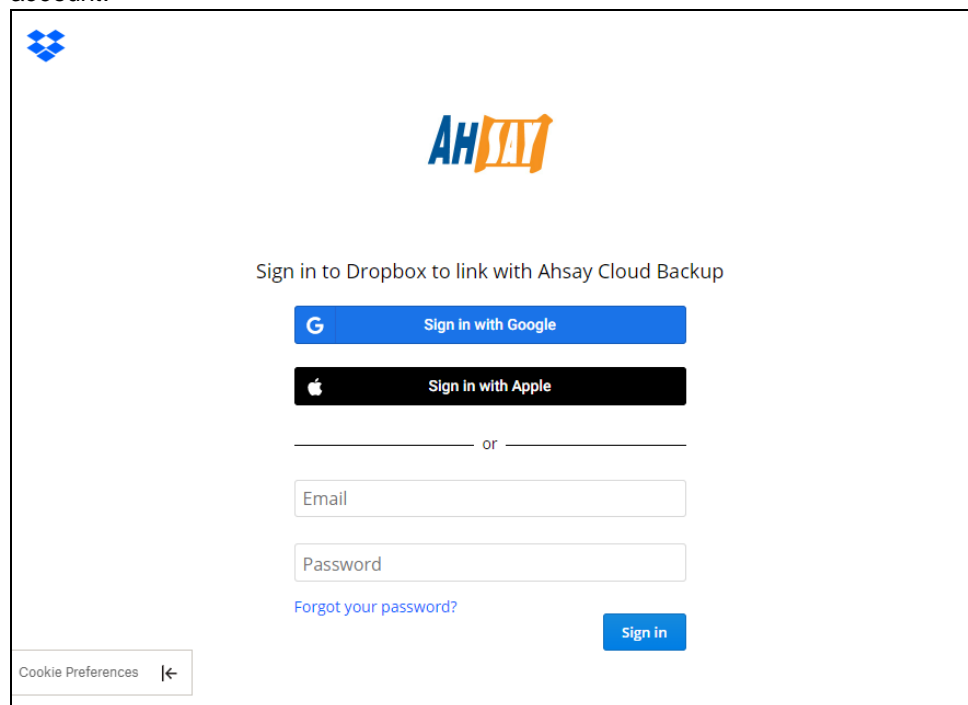
The screenshot shows the 'BackupSet-2' configuration page in AhsayOBM. The left sidebar has tabs for 'General', 'Source', and 'Backup Schedule'. The 'General' tab is selected, showing fields for 'Name' (BackupSet-2) and 'Owner' (AM017L). A blue warning banner is displayed across the middle of the page, stating: 'Dropbox API has been updated, you are required to re-authorize the app before the effective date. Please click continue to start the authorization process.' with a 'Continue' button. Below the banner, the 'Windows User Authentication' section is visible, with fields for 'Domain Name (e.g Ahsay.com) / Host Name' (AM017L) and 'User name'. At the bottom, there are buttons for 'Delete this backup set', 'Save', 'Cancel', and 'Help'.

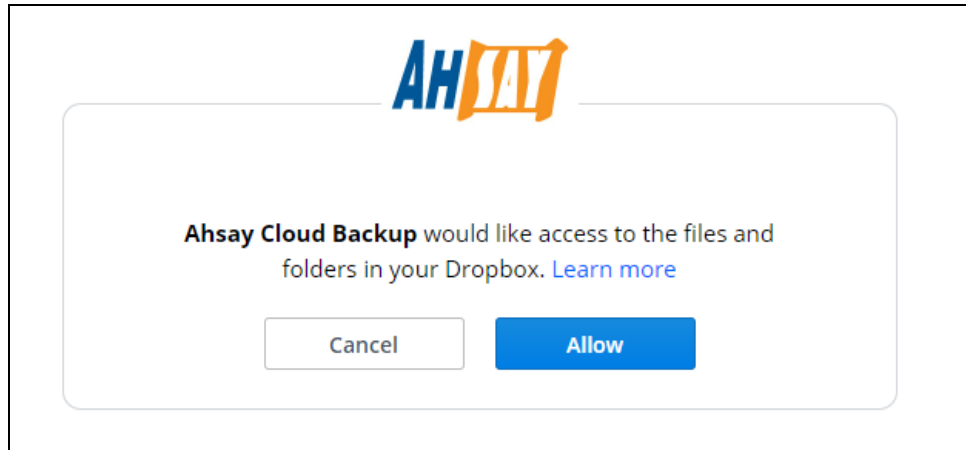
NOTE

This warning will also be displayed if you access the backup set in AhsayCBS.

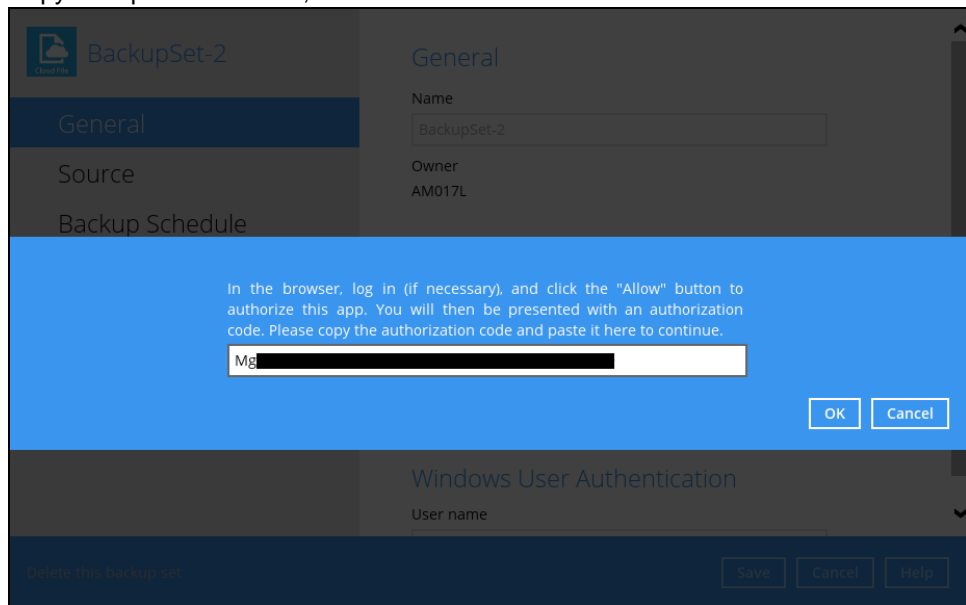


2. Login to your Dropbox account and allow Ahsay access to the files and folders in your account.

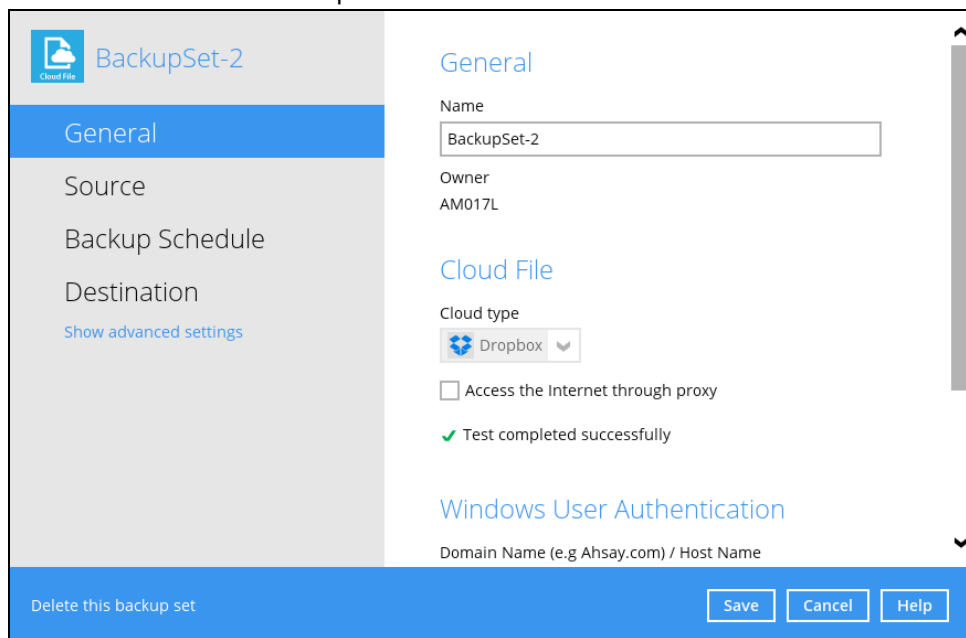




3. Copy and paste the code, then click **OK** to continue.



4. Click **Save** to finish the setup.



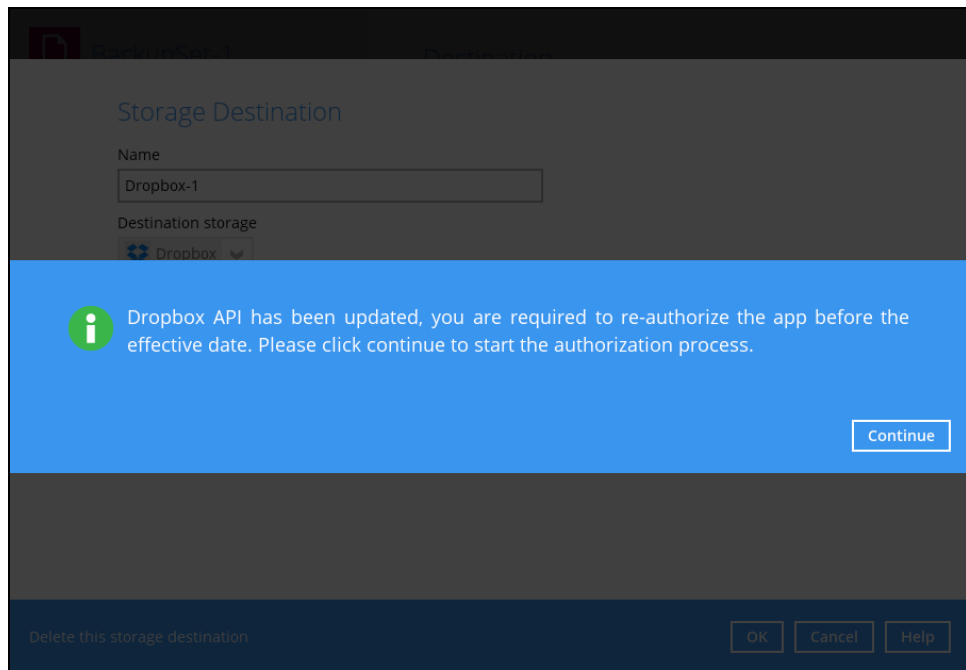
8.4.4 Re-authorize in Backup Sets page in AhsayOBM/AhsayACB as a standard destination

1. A warning will be displayed when you try to access a backup set using Dropbox as a standard destination. Click **Continue**.

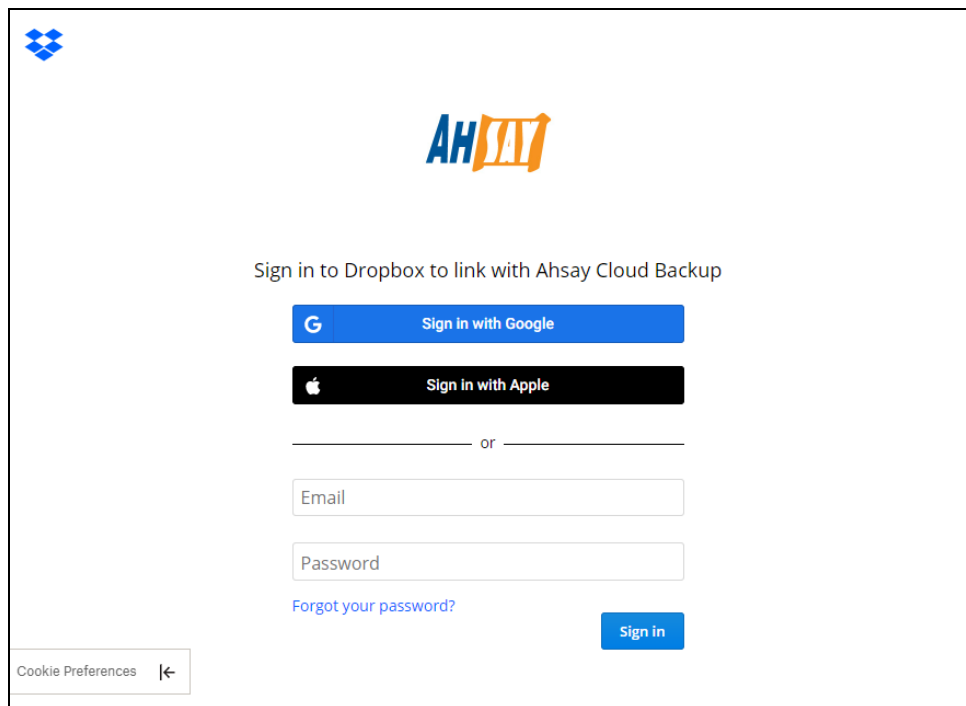
The screenshot shows the 'BackupSet-1' configuration page in the 'General' tab. The 'Name' field contains 'BackupSet-1' and the 'Owner' is 'AM017L'. A blue banner with an information icon contains the message: 'This backup set has Dropbox destination. Since Dropbox API requirements have been updated, it is required to authorize this app for access again.' A 'Continue' button is located in the bottom right of the banner. Below the banner is a 'Password' field. At the bottom of the page are buttons for 'Delete this backup set', 'Save', 'Cancel', and 'Help'.

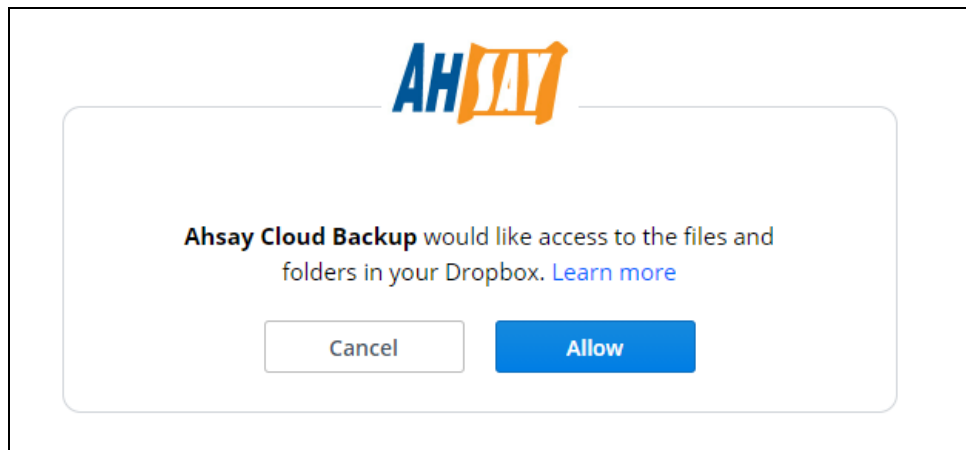
2. Click the Dropbox destination that needs to be re-authorized then click **Continue**.

The screenshot shows the 'BackupSet-1' configuration page in the 'Destination' tab. The left sidebar lists 'General', 'Source', 'Backup Schedule', 'Continuous Backup', and 'Destination' (which is selected). Below the sidebar is a 'Show advanced settings' link. The main area is titled 'Destination' and shows 'Backup mode' set to 'Sequential'. Under 'Existing storage destinations', there is a 'Dropbox-1 (Update Required)' entry with a red status label and a masked 'Dropbox Account'. An 'Add' button is below the list. At the bottom of the page are buttons for 'Delete this backup set', 'Save', 'Cancel', and 'Help'.

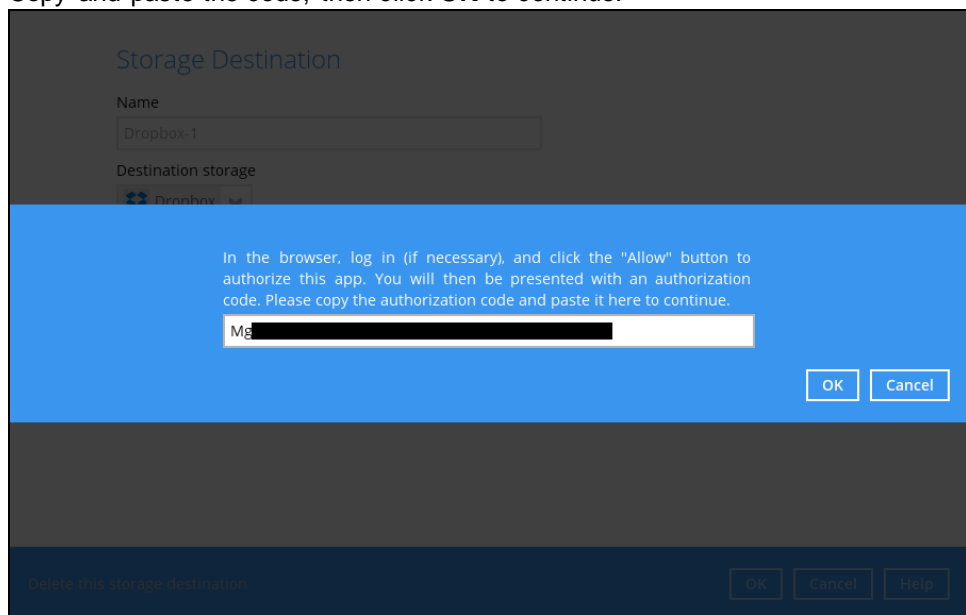


3. Login to your Dropbox account and allow Ahsay access to the files and folders in your account.





4. Copy and paste the code, then click **OK** to continue.



5. Click **OK** then **Save** to finish the setup.

Storage Destination

Name
Dropbox-1


Destination storage
Dropbox

☐ Access the Internet through proxy

✔ Test completed successfully

Delete this storage destination

OK Cancel Help

 BackupSet-1

General

Source

Backup Schedule

Continuous Backup


Destination

Show advanced settings

Destination

Backup mode
Sequential

Existing storage destinations

 **Dropbox-1**
Dropbox Account: [REDACTED]

Add

^ v

Delete this backup set

Save Cancel Help

8.5 Post Upgrade Tasks (Optional)

8.5.1 Branding on AhsayCBS

If you are already on AhsayCBS v7.17.2.2 or above, all your existing branding will be carried forward to the latest version in the previous upgrade steps.

Exceptions are customized *cbs.css*, which may need to be redone using the latest CSS file. As well, any manually customized LIB properties or Email HTML template files, will need to use the latest CBS versions and edits redone.

However, as with each new release, there may be new branding properties or image requirements. After upgrade, you should review your branding settings, and update accordingly.

In order to build Branded CBS or Branded Clients, you must have had purchased the [Rebrand Option](#) module, which then covers any licenses under your account;. And you must continue to maintain valid Support maintenance.

After upgrading your AhsayCBS, you will need to generate the client installers again by following the instructions below:

1. Logon to the AhsayCBS web management console.
2. Click into [System Settings] > [Basic] > [Administrative Access].
3. Click on alphabetically first Admin-type user. (Example, “admin” instead of “system”)

NOTE

If you have branded sub-admin, you will need to repeat these steps individually or use the [Administrative Access] | [Build] view , to bulk build several sub-admin's client installer simultaneously.

4. Click into the [Rebrand Clients] page.
5. Review and verify your branding text properties and all custom images.

Important: If you made changes, remember to Save all the way through to main menu, then return to continue with next step.

6. Click into the [Build Installers] tab, click on the [Build Branded Client] button to generate branded “OBM” and “ACB” installers.

Please be patient, the client installer generation process should take around 15 to 30 minutes. However, the generation time would depend on the traffic condition on the Ahsay customization engine; during new release there may be a spike in builds which will queue up your process. The page will display your wait time. However, if that page is frozen and after 60 minutes you may want to contact Ahsay.

After the installer is generated. You can download branded “OBM” and “ACB” from the Download page for validation testing, before reenabling AUA for each user.

For further information on how to brand the AhsayCBS interface, reseller interface or AhsayOBM/AhsayACB installers, please refer to the Rebranding the AhsayCBS section in the [AhsayCBS Administrator's Guide](#) for details.

Build My Branded CBS Installer

Hire our service to enjoy a smooth and effortless upgrade experience. Click [here](#) to learn more about our offered service to build the latest release of CBS with your branding for use with your upgrade, or visit the [Ahsay Services](#) to review any of other offered services.

8.5.1.1 Microsoft 365 Customization

For AhsayCBS v8.5.0.0 or above, Microsoft 365 Backup Customization (formerly "Office 365 Backup Customization") has been added. It allows for customization of Authorization code and Admin consent endpoint screens for the Microsoft 365 Global region which is displayed when creating Microsoft 365 backup sets on AhsayCBS/AhsayOBM/AhsayACB. You must first set it up in **Backup / Restore > User, Groups & Policies > Policy Group > %policy_name% > Backup Set Settings > Microsoft 365 Backup Customization**. For more information on how to do this please refer to Chapter 6.2.3 in the [AhsayCBS Administrator's Guide](#).

8.5.1.2 Ahsay Mobile

Ahsay Mobile has been released which can be used to backup photos, videos, and documents on a mobile device. It can also be used for Two-Factor Authentication. Currently the branding of Ahsay Mobile can only be done by Ahsay. If you are interested in branding the Ahsay Mobile, you must engage our Ahsay Mobile Branding Service. Please contact our sales team to obtain a service quotation by email at sales-kb@ahsay.com or call our International Sales Hotline +852 3580 8091. For more information on this please refer to Chapter 10.8 of the [AhsayCBS Administrator's Guide](#).

8.5.1.3 Free Trial Registration and Save Password Customization

While for AhsayCBS v8.5.2.35 or above, there two additional GUI features that can be customized for AhsayOBM/AhsayACB. These are the Free Trial registration and Save password options. The Free Trial registration option can now be either displayed or hidden from the startup page. While the Save password option can also be either displayed or hidden from the login page and Profile > Authentication page. This can be customized in **System Settings > Basic > Administrative Access > %system_user_name% > Rebrand Clients > Application Settings – AhsayOBM** and **System Settings > Basic > Administrative Access > %system_user_name% > Rebrand Clients > Application Settings – AhsayACB**. For more details, please refer to Chapter 6.1.2 in the [AhsayCBS Administrator's Guide](#).

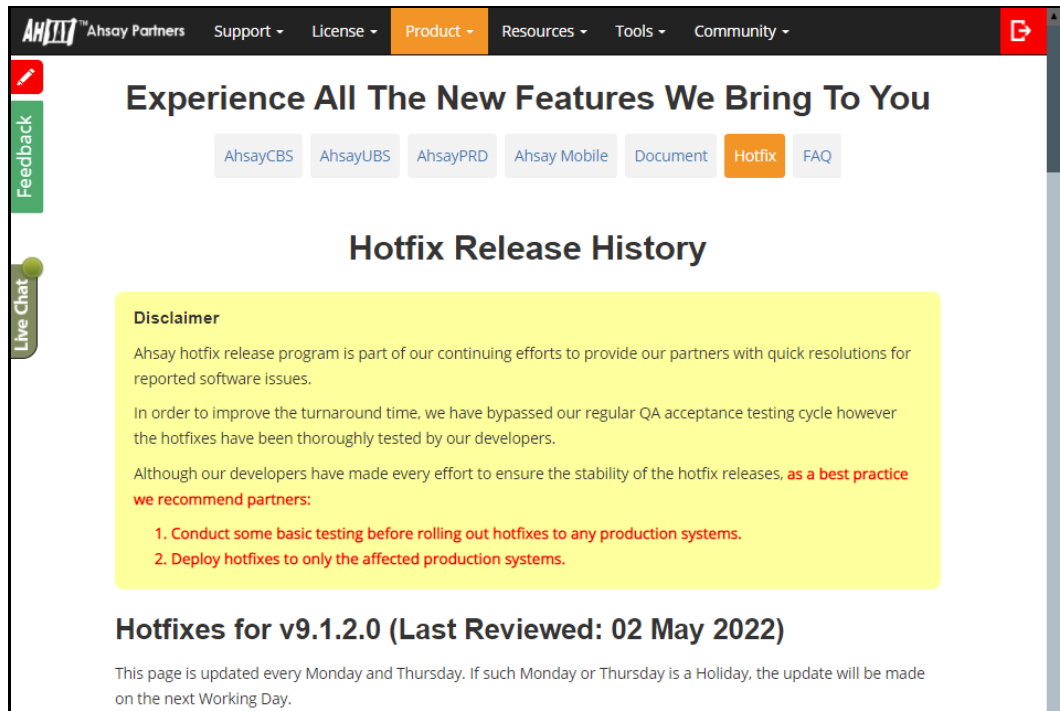
8.5.1.4 Hiding the VM Run Direct Tile on AhsayCBS User web console

For partners who do not offer VMware backups and/or do not provide VM Run Direct recovery from AhsayCBS, the VM Run Direct Tile on the AhsayCBS User web console can be hidden by editing the cbs.css file which is located in the \$APPLICATION_HOME\webapps\cbs\include folder. For details on how to do this please refer to Appendix V of the [AhsayCBS Administrator's Guide](#).

8.5.2 Hotfix Installation

Hotfix Release Program

Ahsay Hotfix Release Program is part of our continuing efforts to provide our partners with quick resolutions for reported software issues. You may actively review the changelog and download the latest hotfix via [Ahsay Partner Portal](#). **A valid partner portal login account is required.**



This latest page in the Ahsay Partners is updated every Monday and Thursday; except for public holiday when the update will be made on the next available business day.

The AhsayCBS hotfix package includes the AUA components which will allow you to deploy the latest AhsayOBM/AhsayACB hotfixes to supported operating systems using Auto Upgrade. The way the AUA Hotfix works, is the user will need to upgrade to the base release first (ie v9.1.2.0), once upgraded, AUA process will poll the CBS server for additional binaries (ie Hotfix v9.1.2.64) and upgrade the device on the second-pass.

In order to improve the turnaround time, the hotfixes have been thoroughly tested by our developers, but has not yet passed QA acceptance testing cycles.

Although our developers have made every effort to ensure the stability of the hotfix releases, as a best practice we recommend partners:

1. Conduct some basic testing before rolling out hotfixes to any production systems.
2. Retain a rollback copy of installation prior to deploying hotfix.
3. Deploy hotfixes to only the affected production systems.

If you elect not to install hotfixes, then you may wait for the next public release version which will roll-up earlier hotfix into latest release.

9 Downgrade AhsayCBS

IMPORTANT

The only acceptable time when you can successfully downgrade to previous installation, is if you just upgraded to latest release but found issues with the upgrade, **and** have not upgraded any clients to v9. If several days or longer has passed, we do not support downgrade as there would have been many changes to both the User Home and configuration, which could corrupt your environment if you downgrade.

Also, downgrade of AhsayCBS may result in data loss. As pre versions of AhsayCBS/AhsayOBM/AhsayACB does not support v8.3 index.db structure, as well as other changes to support new features.

In the following scenarios, backup sets will need to be re-created and data needs to be uploaded again after downgrade:

1. If AhsayOBM/AhsayACB clients have already been upgraded to v9 and v8.3 conversion has already been completed for the backup sets.
2. New backup sets have been created using AhsayOBM/AhsayACB v9.

To successfully rollback to a previous version, you should **immediately stop the CBS service** while you review and understand the downgrade process.

Assumption: You made a rollback copy of previous AhsayCBS binaries/system home before upgrading, and is located in:

Windows

C:\Program Files\AhsayCBS85486

Linux/Solaris/FreeBSD

/usr/local/cbs85486

Substitute our example path with your installation path.

Follow the steps below to downgrade:

Windows: - If you **had previously** retained a rollback copy of your previous installation prior to upgrade:

1. Logon with Windows administrator privileges (i.e. administrator).
2. Stop CBS Service
3. Rename **C:\Program Files\AhsayCBS** , to **C:\Program Files\AhsayCBS.NEW**
4. Rename **C:\Program Files\AhsayCBS85486**, to **C:\Program Files\AhsayCBS**

5. From **C:\Program Files\AhsayCBS.NEW**, copy to **C:\Program Files\AhsayCBS** the following:
 - user
You may omit moving the “user” folder, if your User Home path is not a directory inside your CBS installation path.
6. Start CBS Service
7. Login to CBS Web Management Console, verify version and users exist.
8. If you are branded, it may be necessary to Rebuild Clients

Follow the steps below to downgrade:

Linux/Solaris/FreeBSD:

1. Contact Ahsay Support, who will need to determine if you qualify for downgrade.

Help with downgrade?

If you have a rollback copy, and request Ahsay assistance with the downgrade, then you may contact Ahsay for your Professional Services needs.

10 Downgrade AhsayOBM / AhsayACB Clients

To downgrade AhsayOBM/AhsayACB clients:

- You must have a copy of the Offline Client Installer (or have downgraded AhsayCBS to earlier release).
- You will need to manually reinstall using the older client version.
- Consideration should be taken before you downgrade your CBS Backup Server, if clients already upgraded to v9 OBM/ACB. Once users already run v9 OBM/ACB and need to downgrade client agent, user should be informed the need to recreate Backup Sets and run jobs from new.

NOTE

- ▶ Ahsay Support cannot provide specific Offline Client Installers.
- ▶ It is not possible to use AUA to manage the downgrade of AhsayOBM/AhsayACB clients.

11 Contacting Ahsay

11.1 Technical Assistance

To contact Ahsay support representatives for technical assistance, visit the Partner Portal:
<https://www.ahsay.com/partners>

Also use the Ahsay Wikipedia for resources such as Hardware Compatibility List, Software Compatibility List, and other product information:
<https://wiki.ahsay.com/>

11.2 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/partners/>

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

Appendix

Appendix A Supported Language Code

Language Code	Language
ar	Arabic
ca	Catalan
cs	Czech
da	Danish
de	German
el	Greek Modern
en	English
es	Spanish
eu	Euskara/Basque
fr	French
iw	Hebrew
hu	Hungarian
id	Indonesian
it	Italian
ja	Japanese
ko	Korean
lt	Lithuanian
nl	Dutch
no	Norwegian
pl	Polish
pt_BR	Portuguese (Brazil)
pt_PT	Portuguese (Portugal)
ro	Russian
sl	Slovenian
sv	Swedish
th	Thai
tr	Turkish
vi	Vietnamese
zh_CN	Chinese (Simplified)
zh_TW	Chinese (Traditional)

Appendix B Image Specifications for Branding

Please refer to **Appendix E Image Specifications** of our [AhsayCBS Administrator's Guide](#) for details.

In order to build Branded CBS or Branded Clients, you must have had purchased the [Rebrand Option](#) module, which covers any license under your account.

Build Branded Installers

Ahsay Professional Services offers various branding services to assist you with your project.

If you do not have a graphics designer, Ahsay can design all the required images and build your custom installer. [Total Rebranding Service](#)

If you have a graphics designer, but do not have the time to build the branding profile and build the custom installer, our team can assist you with this project. [Build My Branded CBS Installer](#)

Appendix C Supported Upgrade Paths

Here is an outline list of supported upgrade paths.

- In-place Upgrade
 - This is the standard upgrade path outlined earlier in this guide.
- Migrate to new replacement server (new OS, on-premises, non-cloud)
 - New OS should be like-for-like (LFL). Example: Windows 2008 to Windows 2019 is acceptable; but not Linux-to-Windows or AhsayUBS-to-Windows.
 - [FAQ: How to migrate AhsayCBS onto a new server?](#)
 - [FAQ: How to move a backup user to a different AhsayCBS server](#)
 - Verify clients connect, run jobs, and no new issues.
 - Then proceed with in-place upgrade path
- Migrate to cloud server (new OS, cloud VM)
 - You will need storage data disks configured and natively accessible by the Operating System
 - Storage will be used by User Home path
 - Example: `E:\UserHome`
 - Example: `/mnt/diskvol1/userhome`
 - Not recommend to configure User Home under OS disk volume
 - Proceed with “*Migrate to new replacement server*” path

Help to the Cloud?

If you require further answers regarding moving your on-premises Ahsay to the cloud, please contact Ahsay Professional Services to assist you with your project.

Questions related to this type of migration cannot be answered by Ahsay Support, as environments varies between customer to customer, there may be numerous complexities to be handled by experienced Services Team.

Appendix D Help Topics

Generic

- [FAQ: How to provision a Pool Key for AhsayCBS backup server?](#)
- [FAQ: When are the default Ahsay dummy / self-sign certificate acceptable for business?](#)
- [FAQ: How to improve security of connection to AhsayCBS](#)

Version 7

- [FAQ: Ahsay Hardware Requirement List \(HRL\) for version 7.3 or above](#)
- [FAQ: Ahsay Software Compatibility List \(SCL\) for version 7.3 or above](#)
- [FAQ: Frequently Asked Questions about Ahsay Cloud Backup Suite 7](#)

Version 8

- [FAQ: Ahsay Hardware Requirement List \(HRL\) for version 8.1 or above](#)
- [FAQ: Ahsay Software Compatibility List \(SCL\) for version 8.1 or above](#)

Version 9

- [AhsayCBS v9 New Features DataSheet](#)
- [FAQ: Ahsay Software Compatibility List \(SCL\) for version 9.1 or above](#)
- [FAQ: Ahsay Hardware Requirement List \(HRL\) for version 9.1 or above](#)
- [FAQ: How to modify the Java heap size of AhsayCBS?](#)
- [FAQ: Where are the backup client application logs stored at?](#)
- [FAQ: How to modify the Java heap size setting for Run on Server Office / Microsoft 365 backup job?](#)
- [FAQ: Frequently Asked Questions on Backup Destination](#)
- [FAQ: How to move a backup user to a different AhsayCBS server](#)
- [ISSUE: Access denied \(cannot login to the AhsayCBS console via the host name\)](#)
- [FAQ: How to start AhsayCBS in debug mode?](#)
- [FAQ: Trusted Certificate Authority \(CA\) Certificates List for version 9.x](#)