

Backup your Mac Using Time Machine

May 2017

Table of Contents

INTRODUCTION	3
WHO THIS MANUAL IS FOR	3
DESCRIPTION OF TIME MACHINE	3
WHY SHOULD YOU USE TIME MACHINE	3
HOW TO CREATE A NEW TIME MACHINE BACK UP	4
TIME MACHINE REQUIREMENTS	4
CREATE A NEW TIME MACHINE BACKUP	4
HOW TO USE TIME MACHINE TO RECOVER A FILE	9
USING FINDER	9
USING THE TIME MACHINE INTERFACE	12
CAUTIONS OF USING TIME MACHINE	14
WHAT TIME MACHINE DOES NOT BACKUP	14
ISSUES WITH LARGE FILES	14
DO NOT MODIFY FILE STRUCTURE FROM FINDER	14
KEEP THE TIME MACHINE BACKUP SAFE	14
RECOVER FILES OCCASIONALLY TO TEST BACKUP	14
EXTERNAL DRIVE FAILURE	14

Introduction

Who this manual is for

All users of Apple computers users considering creating a backup of their computer. All users should consider making a copy of their files, photos, and music to another hard drive. Apple has included the Time Machine application with all versions of Mac OS X since version 10.5.

Description of Time Machine

Time Machine is an application that Apple includes with the Mac operating system to allow a user to back up their files on their local hard drive. Apple designed the program to be simple to set up and use. Though easy to create a backup there are some behaviors that must be followed to maintain the backup and have a better chance of recovering that missing file.

Using Time Machine, you can back up on computer to one or several hard drives for redundancy, or several computers to one drive to keep backups in one hard drive.

Why should you use Time Machine

Hard drive failure

Like all manufactured items, storage devices in computers will fail at some point and the data on the files may be unrecoverable or may cost an extreme amount for a recovery effort. If the drive is a solid state drive there may be no warning that the drive is going bad, it will just stop working.

Theft of the computer

Your computer may go on a walkabout without you. If it does then all the files you do not save to the cloud will be lost forever.

Recovery of files that were deleted or modified

A file may inadvertently be deleted and need to be recovered at a later date. Since Time Machine is a snapshot of your files at a certain time, the file can be recovered either the whole document or a portion of the document.

Quickly setup a new computer

When you purchase a new computer, you can use a Time Machine backup to transfer your application, settings, and files to the new computer. This saves time installing applications and adjusting settings to the way you like to use your computer.

NOTE: All screen shots are from computer using Mac OS X 10.12.4 (macOS Sierra) and your view may vary some with older versions of Mac OS X.

How to create a new Time Machine back up

Time Machine requirements

- Apple computer with Mac OS X version 10.5 or newer
- An external hard drive that has no data on it and has a capacity at least that of the internal drive of the computer, preferably twice the capacity.

NOTE: A new hard drive is recommended as this backup may be used for several years and it is important the is dependable.

NOTE: The larger the hard drive used the deeper the back history. As the drive fills Time Machine will start deleting older items to make room.

Create a new Time Machine backup

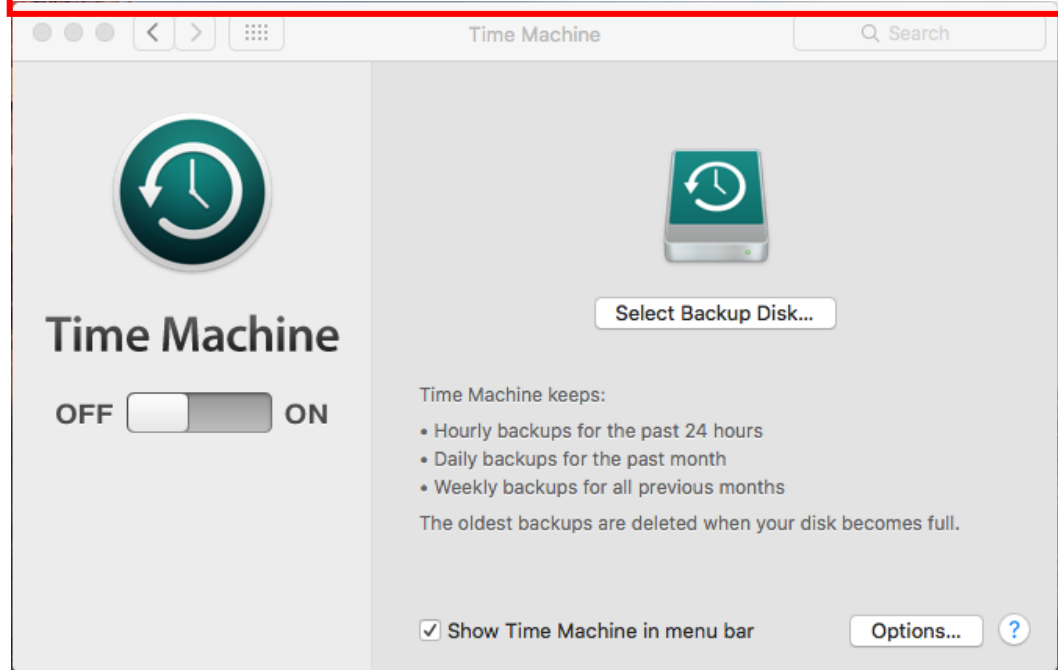
1. Plug the external hard drive into the port on the computer
2. Once the drive is detected the computer will display a prompt asking if you want to use the drive as a Time Machine backup.



- a. **Decide Later** – will allow the driver to prompt you again the next time you connect the hard drive.
- b. **Don't Use** – will not start use the drive as a Time Machine drive and not prompt you again the next time the drive is connect to this computer
- c. **Use as Backup Disk** – will open the Time Machine preference pane to set up Time Machine for on this hard drive

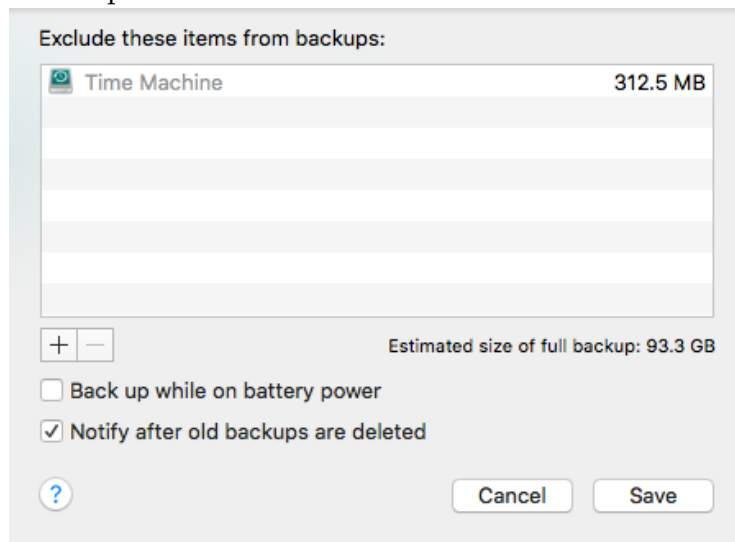
- d. **Encrypt Backup Disk** – if you want to protect your files from being viewed by unauthorized users, check the box to encrypt the backup. You will be prompted for a password, which will be needed every time you connect the hard drive.

WARNING: If you encrypted the backup, do not forget the password, or you will be locked out of the backup.

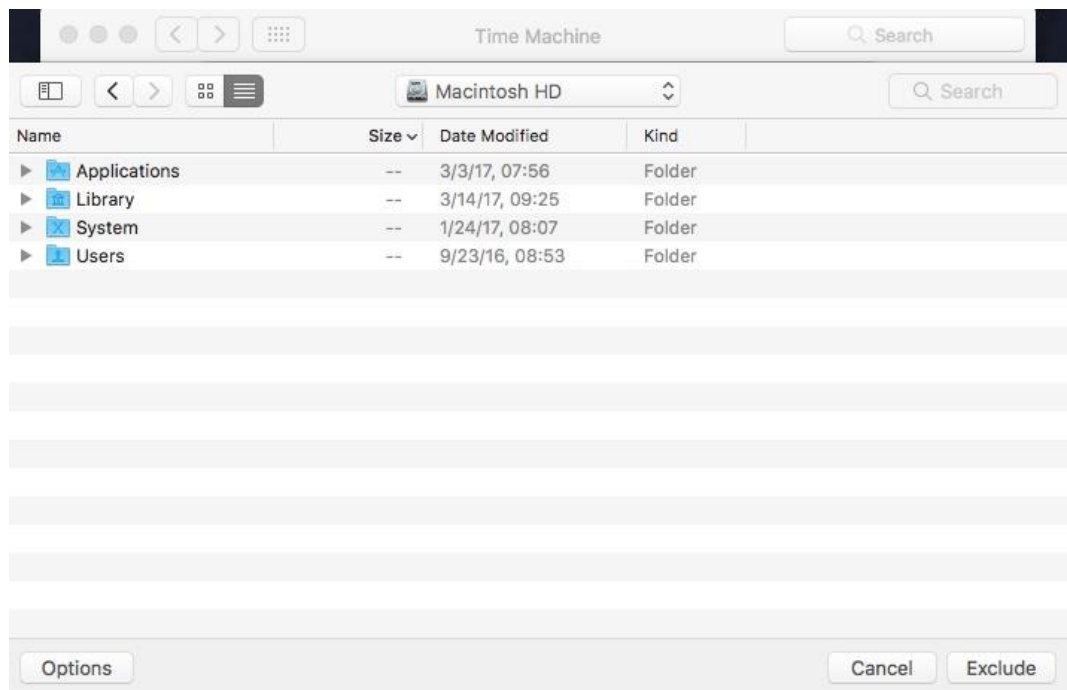


3. The Time Machine preference pane will explain the how Time Machine keeps a backup and controls for adjusting the setting in the application.
4. Make certain the check box to Show Time Machine in menu bar is checked. This will help to determine if Time Machine is backing up and the last time Time Machine last backed up the system.

5. Click the Options... button in the lower right corner of the Time Machine preference pane. The options dialog box will allow you to exclude items from the back up and to get a warning when old backups are deleted.



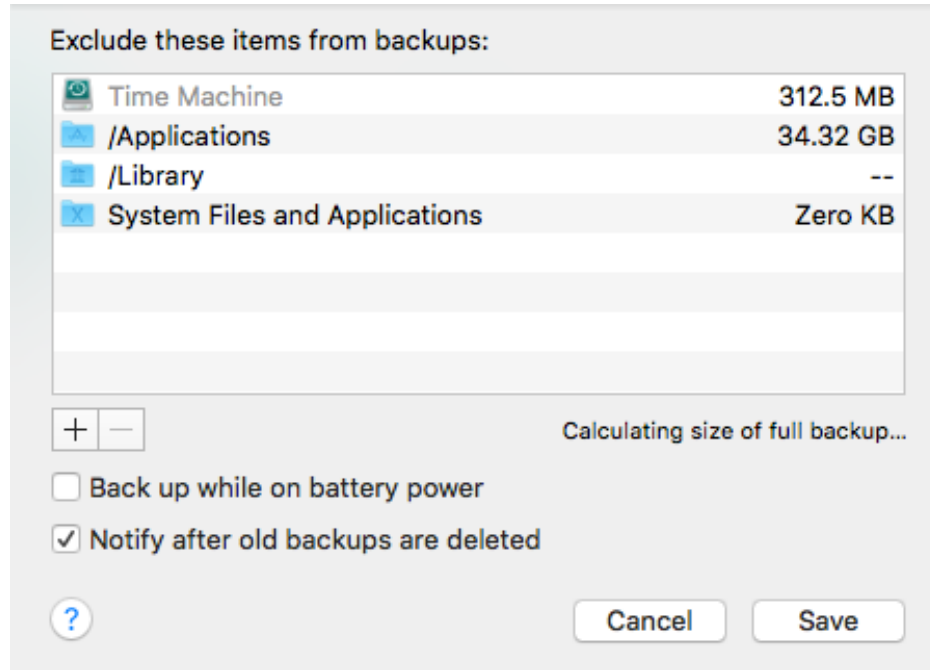
- a. If you want to do a complete back up of all the files on your computer, including applications and settings, click the Save button in the lower right corner
- b. To exclude items, click the + button below the list. This will open a Finder window where you may navigate to the folders you want to exclude. Click the folder to select



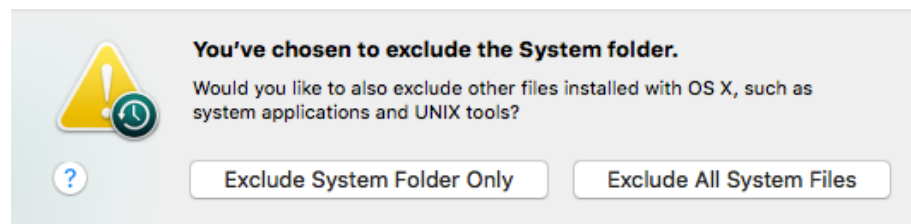
NOTE: Excluding folders that do not need to be backed up will save space on the Time Machine backup and allows for a longer recovery time of files.

it then click the Exclude button in the lower right corner.

If you only need to back up user data, then exclude all folders except the Users folder



When you chose the System folder the application will prompt you if you want to Exclude System Folder Only or Exclude All System Files



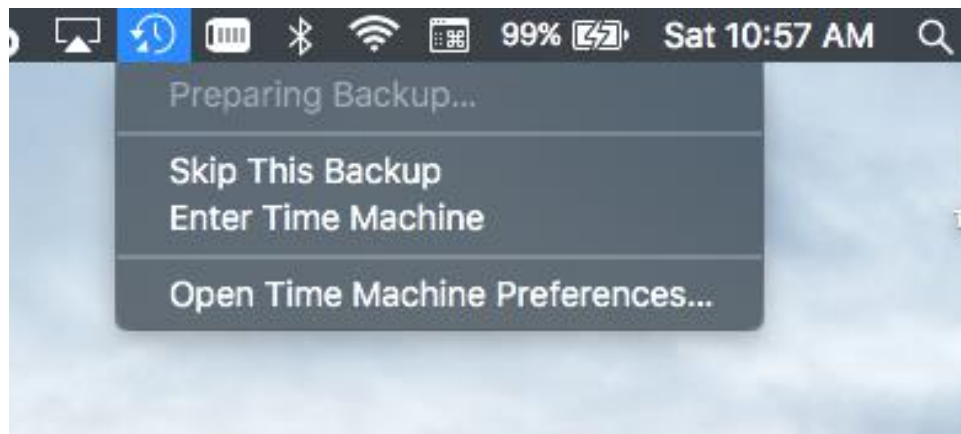
- When all the folders and files have been selected that you want to exclude click the Save button in the lower right corner.
- Move the switch in the Time Machine preference to the on position. Time Machine will now perform a backup of the files not excluded.

WARNING: When performing a Time Machine back up it is recommended the computer is plugged into an AC outlet, especially for the initial back up. This back up may take several hours depending on the number of files being backed up.

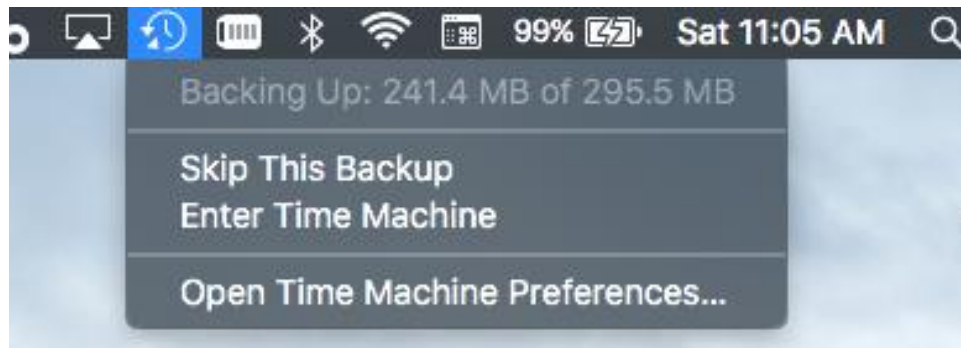
8. Check the progress of the Time Machine backup by clicking the Time Machine icon (backwards clock icon) the menu bar.

NOTE: If the Time Machine icon is not displayed on the menu bar see step 4 to display the icon.

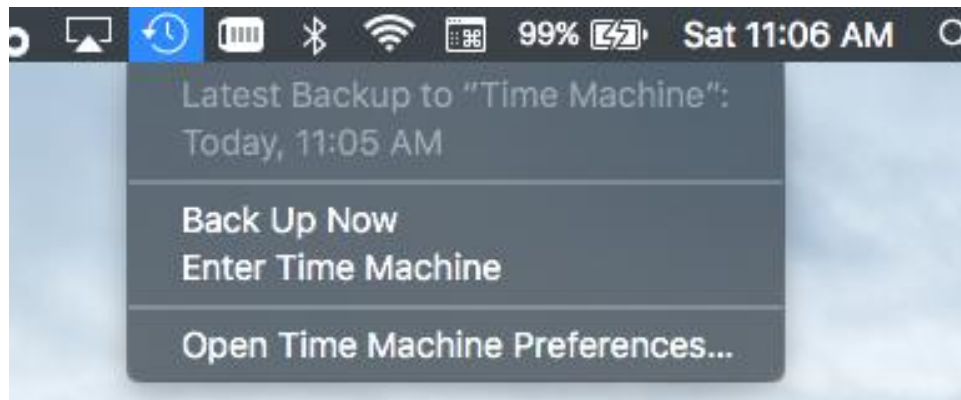
At first the message window will display Time Machine is preparing the backup



Then the the message window will display the progress of the backup



When completed the message window will display the date and time of the latest backup.



How to use Time Machine to recover a file

Using Finder

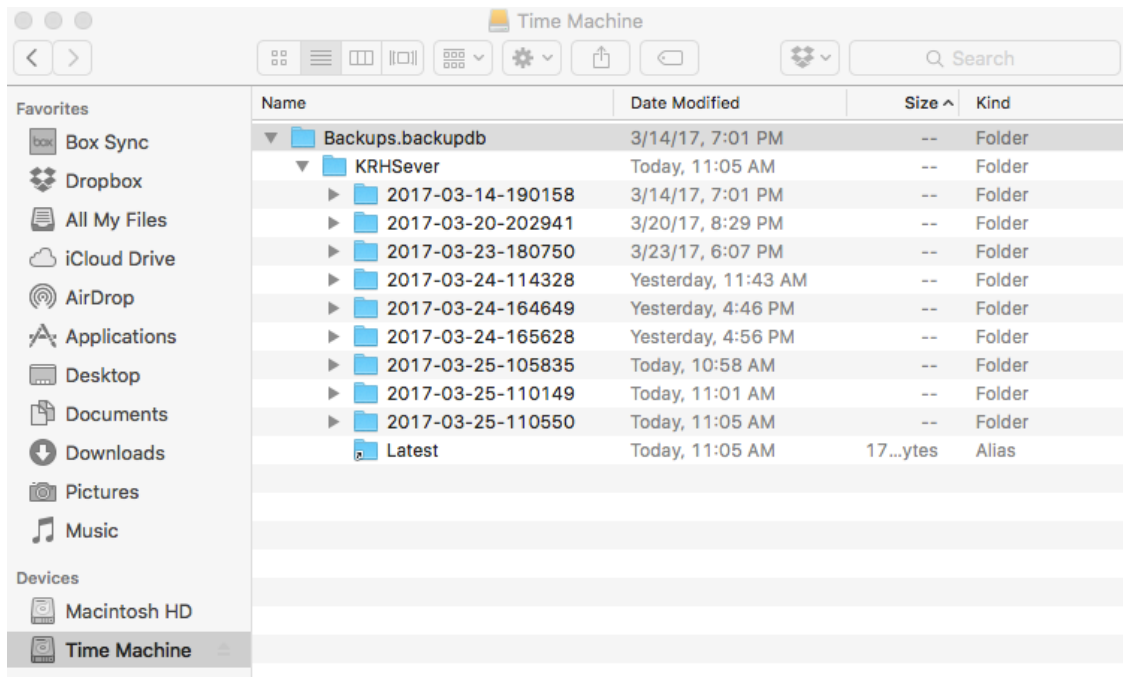
You do not have to use the same computer to recover a file or folder from a Time Machine backup., any Apple computer can be used.

WARNING: Do not save files to the Time Machine hard drive using any other method than the Time Machine application.

WARNING: Do not move, rename, or delete any files or folders in at Time Machine backup using Finder, this may cause corruption of Time Machine backup.

1. Connect the external hard drive that has the Time Machine backup to an Apple computer.

2. Open Finder and display the content of the Time Machine hard drive



At the root of drive there is a folder Backup.backupdb, which is the folder holding all time machine backups on the hard drive. A drive may contain Time Machine backups from different computers.

In Backup.backupdb folder you will find a folder listing the computers backed up on this drive. In the example above the computer is named KRHSever.

In the folder for the computer are the backups that have been performed. Each folder is named with the date and time of the back up in the format yyyy-mm-dd-hhmmss. The time is indicated using the 24-hour clock.

2017-03-25-110149	Today, 11:01 AM	--	Folder
2017-03-25-110550	Today, 11:05 AM	--	Folder
Macintosh HD	Today, 11:05 AM	--	Folder
Users	10/1/15, 9:25 AM	--	Folder
howardke	3/9/17, 8:11 AM	--	Folder
Applications	11/24/14, 8:43 PM	--	Folder
Box Sync	2/10/17, 9:53 AM	--	Folder
Desktop	Today, 11:04 AM	--	Folder
Documents	Yesterday, 4:46 PM	--	Folder
Downloads	3/20/17, 8:17 PM	--	Folder
Dropbox	Today, 10:55 AM	--	Folder
Movies	11/21/14, 1:26 PM	--	Folder
Music	5/22/16, 3:16 PM	--	Folder
Pictures	1/9/17, 5:53 PM	--	Folder
Public	9/24/16, 1:02 PM	--	Folder
Shared	1/9/17, 3:31 PM	--	Folder
Latest	Today, 11:05 AM	17...ytes	Alias

Each backup folder will contain the folders that were backed up with the same file organization that was on the computer when it was backup.

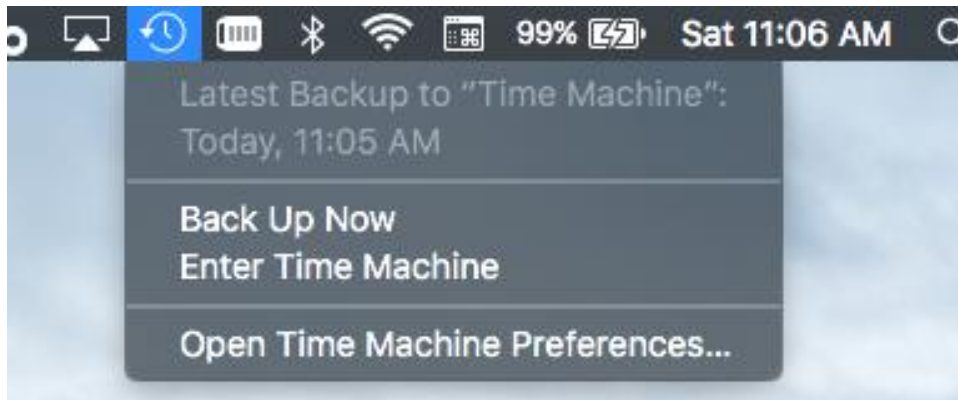
3. Locate the file you need to restore and then copy it the computer you are using.

NOTE: If you double click a file to open it, the file will be opened as a read only file to prevent you from modifying the file in the Time Machine backup.

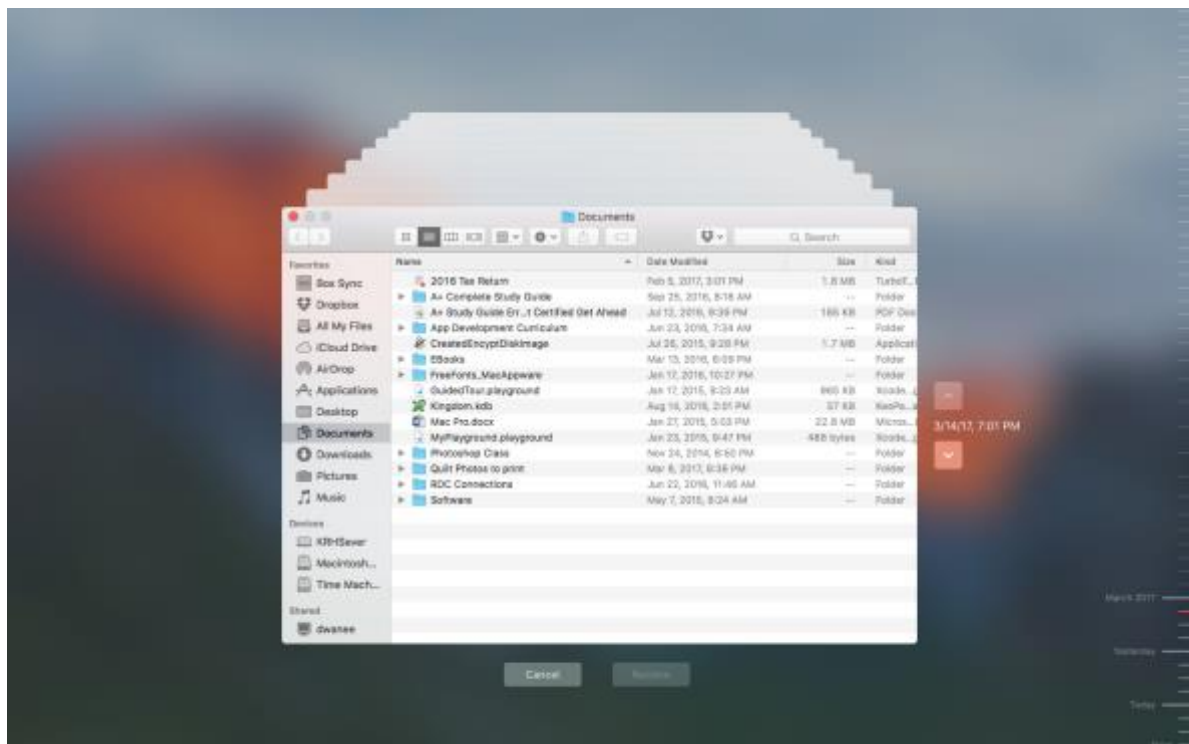
4. Once the file has been copied to your computer you may use file as normal.

Using the Time Machine interface

1. Connect the external hard drive that has the Time Machine backup to an Apple computer.
2. Open Time Machine, by clicking on the Time Machine icon on the menu bar then click Enter Time Machine



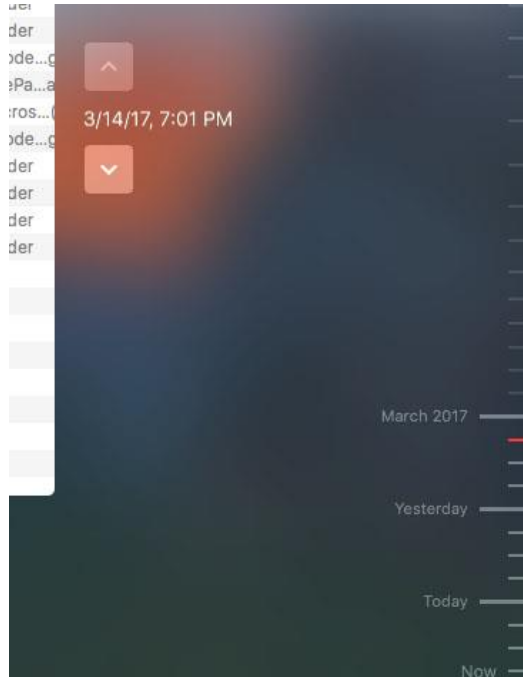
3. Time Machine will open full screen on your computer



The display is a Finder window that you can use to scroll back in time. The date and time of the Finder window that is displayed is shown to the right between the up and down arrow buttons.

You may also use those buttons to move forward or backwards through the Time Machine backup.

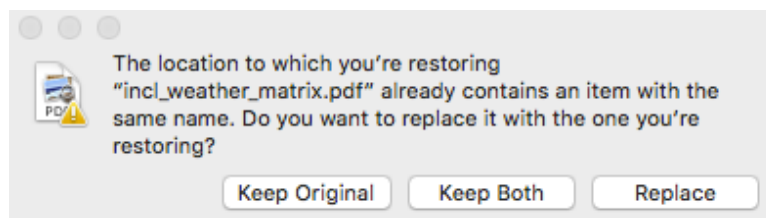
If you have a backup that is several years old you can use the bars on the side to move quickly through the backup.



NOTE: You can open Preview in Time Machine by highlighting the file then pressing the space bar.

4. Locate the file you need to restore, click the file/folder to highlight it, then click the restore button. The file will be copied back to the location it had been in at the time it was backed up.

If a file with same name exists in the location you will be notified with a warning dialog box.



Keep the original – will cancel the file recovery

Keep Both – will create a copy of the file and append (original) to the name of the file

Replace – replaces the file in the file in the destination location

5. Pressing esc key or the Cancel button will exit Time Machine.

Cautions of using Time Machine

What Time Machine does not backup

Files that does not affect the operation of the computer is not backed up, such as temporary files, cached files, and trash.

Issues with large files

Database files can be large and will be backed up every time they are opened. Little or no data may have changed but the file will be backed up. These types of files can fill the Time Machine backup quickly. You should consider excluding these files and performing a manual copy of the files to another location.

Do not modify file structure from Finder

Do not delete, rename, or reorganize the files on the Time Machine drive. This drive should be used only to view files or copy files to a location where they can be edited.

Keep the Time Machine backup safe

The files on backup drive can be viewed by any with access to the drive. Use encryption to prevent unauthorized users from viewing your files.

External drives are small and can be easy misplaced. Keep track of the drive and if possible store the drive in a safe location or at a different site than the computer.

Recover files occasionally to test backup

Occasionally check your Time Machine backup to verify that your files are being backed up, by restoring a file or folder.

External drive failure

Like any manufactured device, the external device holding your backup could fail or could be lost. If your data is important or valuable, you may consider creating a second backup on another drive.

Time Machine allows using multiple drives to create multiple backups of the same computer.