Data Backup and Recovery

Module 13

Lab 1

Performing Data Backup Using AOMEI Backupper Standard

AOMEI back upper is an important tool used for backup and restoration. It can back up large amounts of data in a short time, has a user friendly GUI and is compatible with most systems.

ICON KEY

- Valuable information
- Test your knowledge
- Web exercise
- Workbook review

Lab Scenario

Taking data backups at periodic intervals is an important task of an administrator in any organization. Backups help organizations recover from data loss and disasters. Loss of data or corruptions of data cause severe problems to an organization as it may damage their reputation or can affect their business continuity. As a **Network Administrator**, you should know various tools and techniques for taking backups of sensitive data.

Lab Objectives

The objective of the lab is to demonstrate how to perform a backup of your data.

Lab Environment

To carry out the lab, you need:

- A virtual machine running **Windows 10**, with AOMEI back upper standard installed on it
- An Internet connection and a web browser to download AOMEI back upper standard if it is not installed, from the link http://www.backup-utility.com/free-backup-software.html
- The screenshots may differ if you have installed the latest version
- Administrative privileges to run this tool

Lab Duration

Time: 25 Minutes

Overview of AOMEI Back upper standard

AOMEI is an easy to use data back up and restoration tool. AOMEI creates a backup of specified files, folders, partitions, disks or even an entire system. You can store the backup file on your system or on a NAS. AOMEI can be set to automatically take backups at specific time intervals using a Scheduled backup.

Lab Tasks

TASK 1

Taking Full Backup

1. Launch the **Windows 10** machine and login as the local Administrator.
2. Before starting this lab, navigate to **Z:\CND-Tools\CND Module 13 Data Backup and Recovery\Data Backup Tools for Windows\AOMEI Backupper** and copy the **Test Documents** folder and paste the folder on the **Desktop** of the Windows 10 machine.

Full Backup - Before getting to know incremental and differential backup, it is necessary for us to learn what "full backup" is. Full backup refers to creating a backup of all the valid data, whether it is new added or exists for a long time.

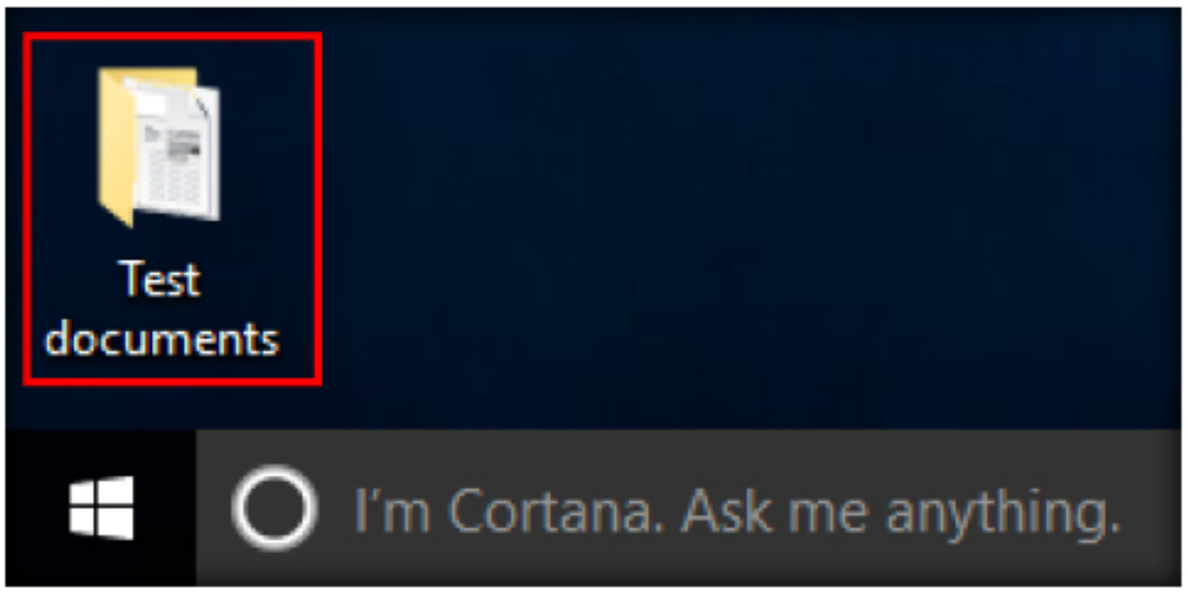

FIGURE 1.1: Need to Backup Folder

3. Navigate to **Z:\CND-Tools\CND Module 13 Data Backup and Recovery\Data Backup Tools for Windows\AOMEI Backupper** and double-click **Backupperfull.exe** to start the **AOMEI Backupper** installation.
4. The **User Access Control** window appears, click **Yes** and follow the wizard driven installation steps to install the AOMEI Backupper.

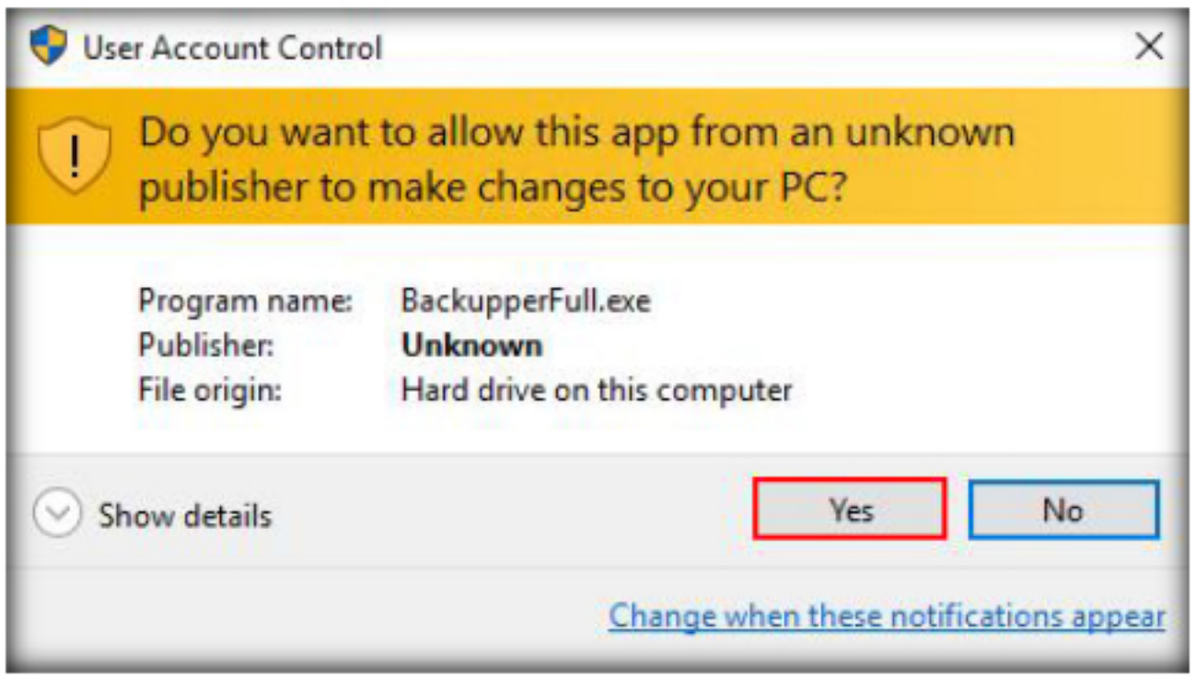

FIGURE 1.2: User Access Control

5. To launch AOMEI Backupper, double-click the short-cut icon on the desktop for **AOMEI Backupper Standard**

Full Backup - For instance, a backup of the operating system refers to back up all the data in system partition. If the system files of Windows 7 occupy 12GB, a full backup of this system partition will contain data of 12GB. Namely when making a full backup of a disk, all the data on the disk will be backed up.

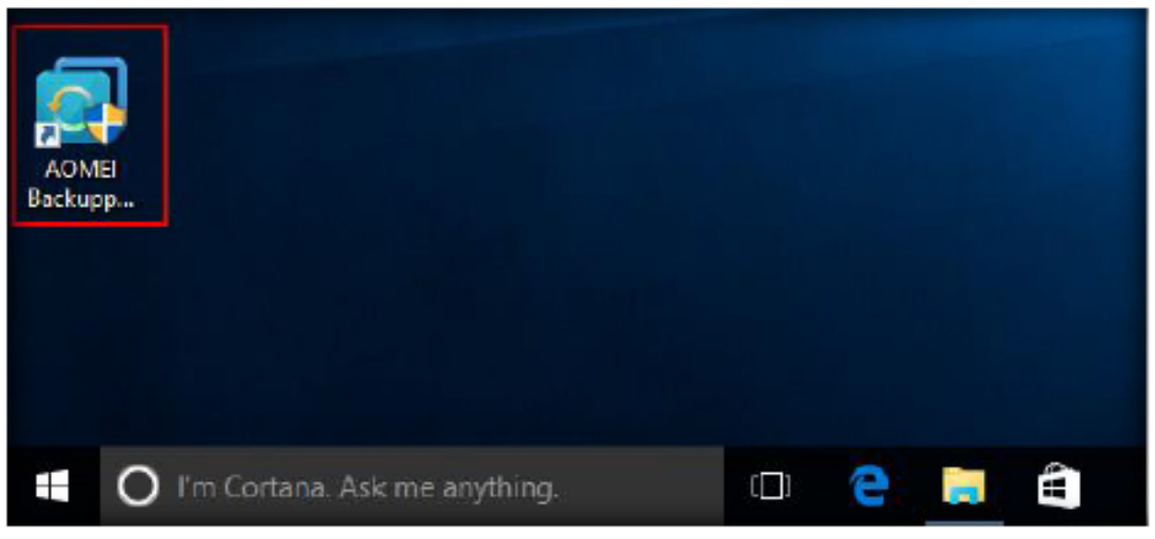

FIGURE 1.3: Launch AOMEI Backupper Standard

6. The **User Account Control** window appears. Click **Yes**.

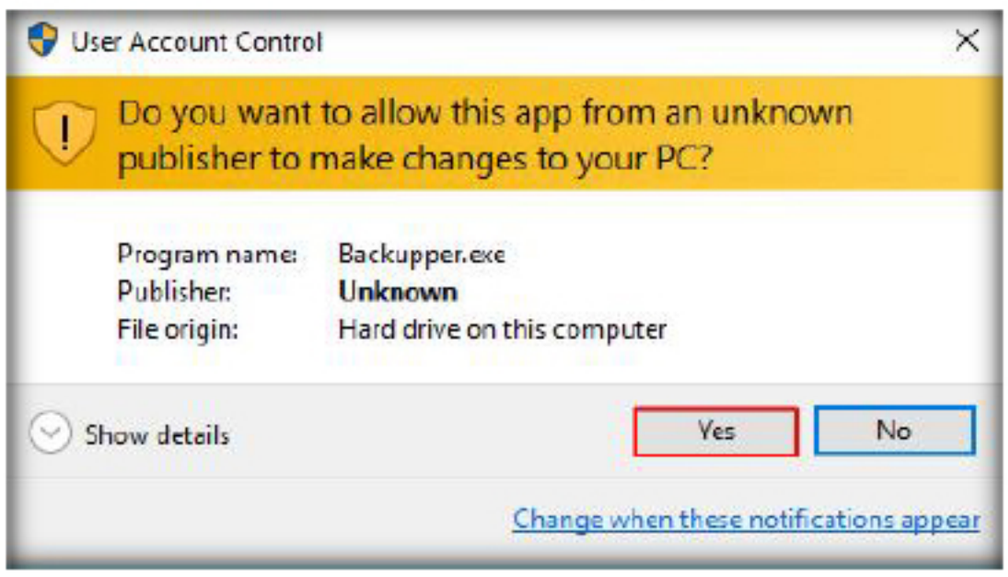

FIGURE 1.4: User Account Control

7. The **AOMEI Backupper Standard** window appears. Click **Create New Backup**.

Full Backup - So does the full backup of a partition. The object of full backup can be system partition, data partition, a whole disk, etc.

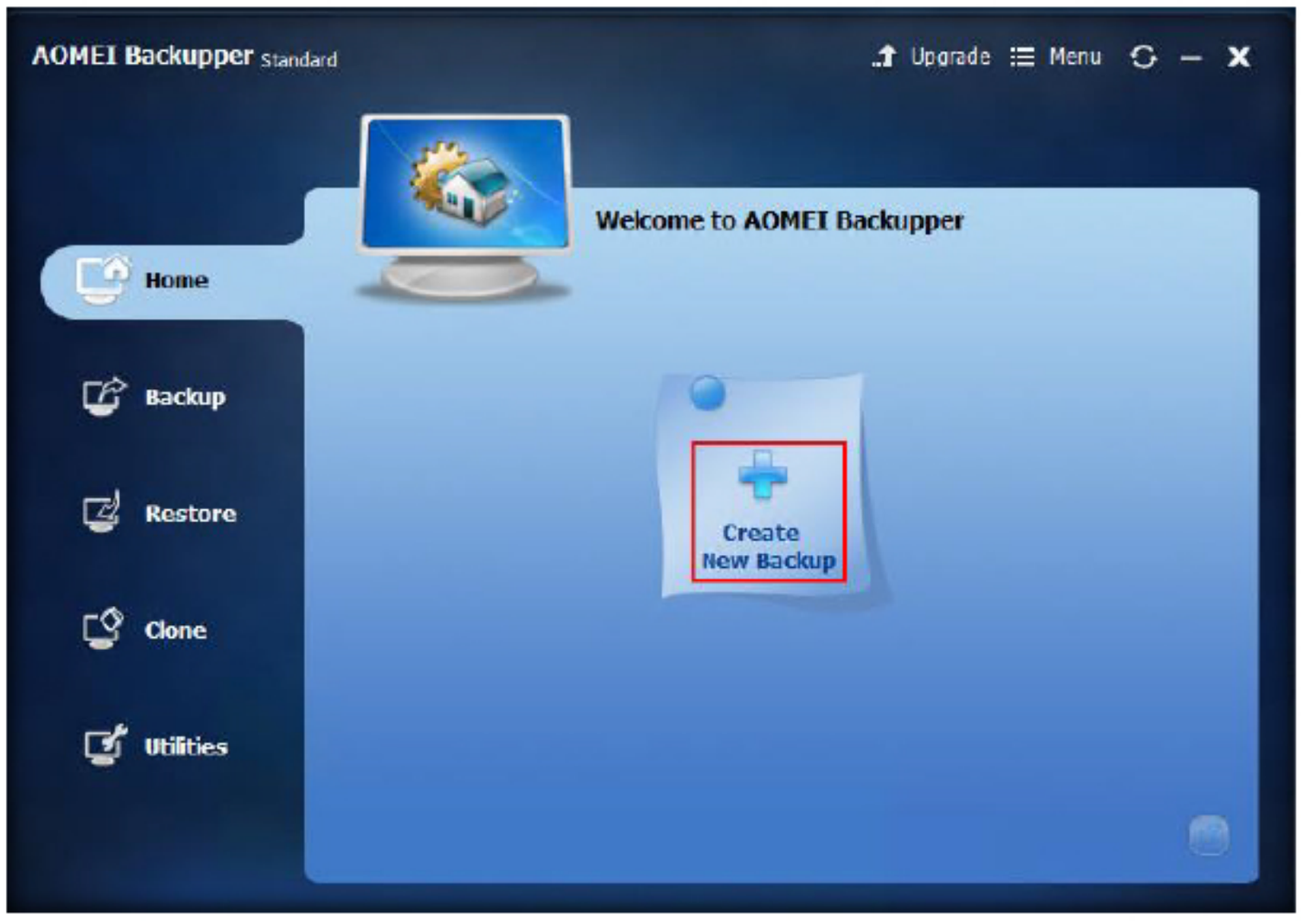

FIGURE 1.5: Navigating to new backup creation

8. The **Backup** tab appears. Click **File Backup**.

FIGURE 1.6: AOMEI Backupper File Backup

Full Backup - Generally speaking, we will do a full system backup after installing an operating system. After a period of time, we will add data to system partition, and then need to do a system backup again. If we employ a full backup, it will cost more time than the last full backup.

9. The **File Backup** window appears. Click **Add Folder**.

FIGURE 1.7: Adding file for backup

Full Backup - What's more, the compressed image file of the first full backup might occupy 8GB, and the image file of the second full backup might occupy another 8GB or more. In the two image files. Much of the data is identical.

10. The **select folder** window appears. Click **Browse**.

Full Backup - There is no need to back up identical data for the second time. Only the new added data needs to be backed up.

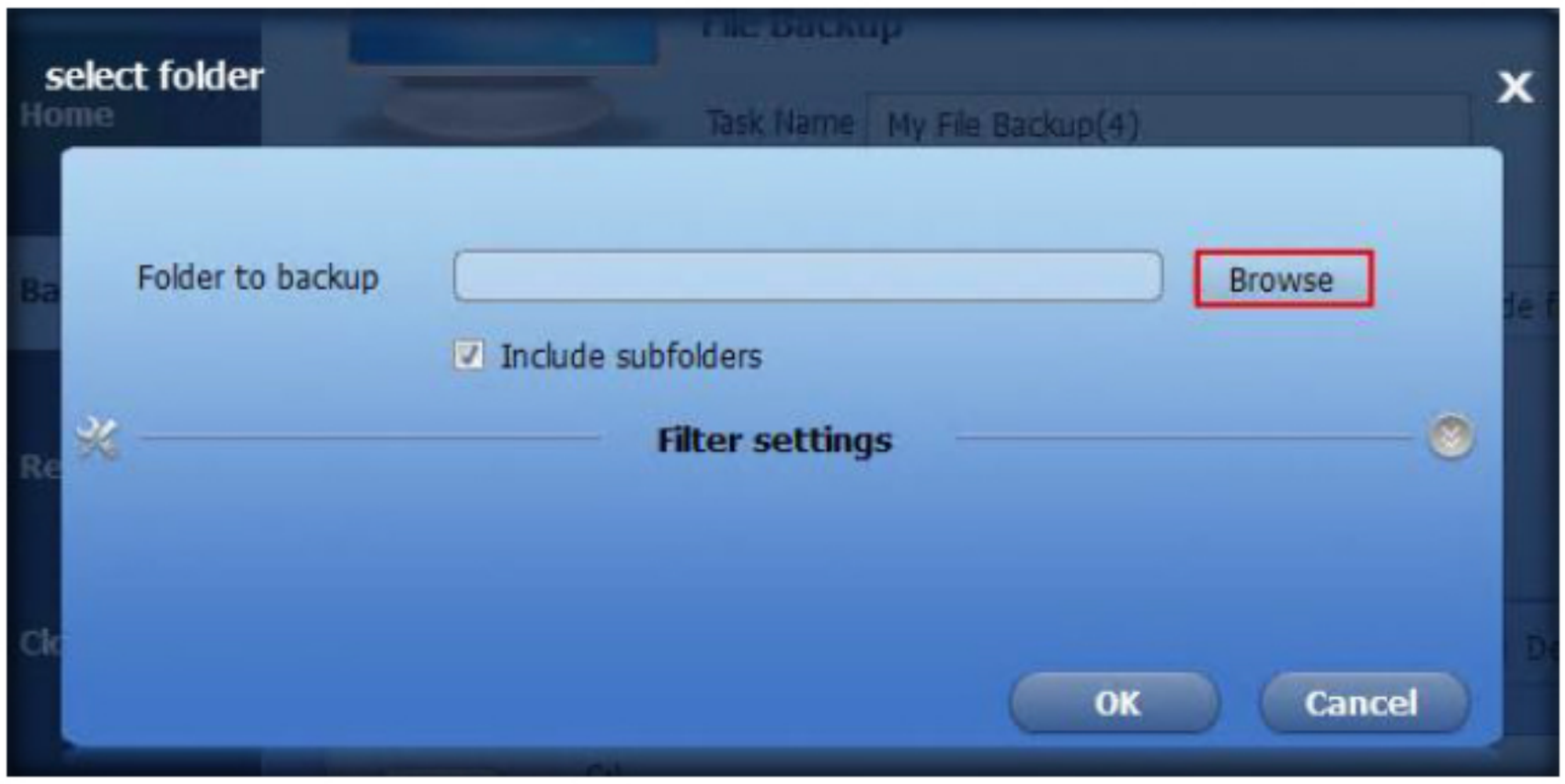

FIGURE 1.8: Select Folder pop-up

11. The **Open** window appears. Navigate to the **Desktop** and select the folder which you want to backup, (here in this lab **Test Documents** is the folder) then click **Open**.

Full Backup - It can reduce the time of the backup, but also reduce the storage space for the second image file.

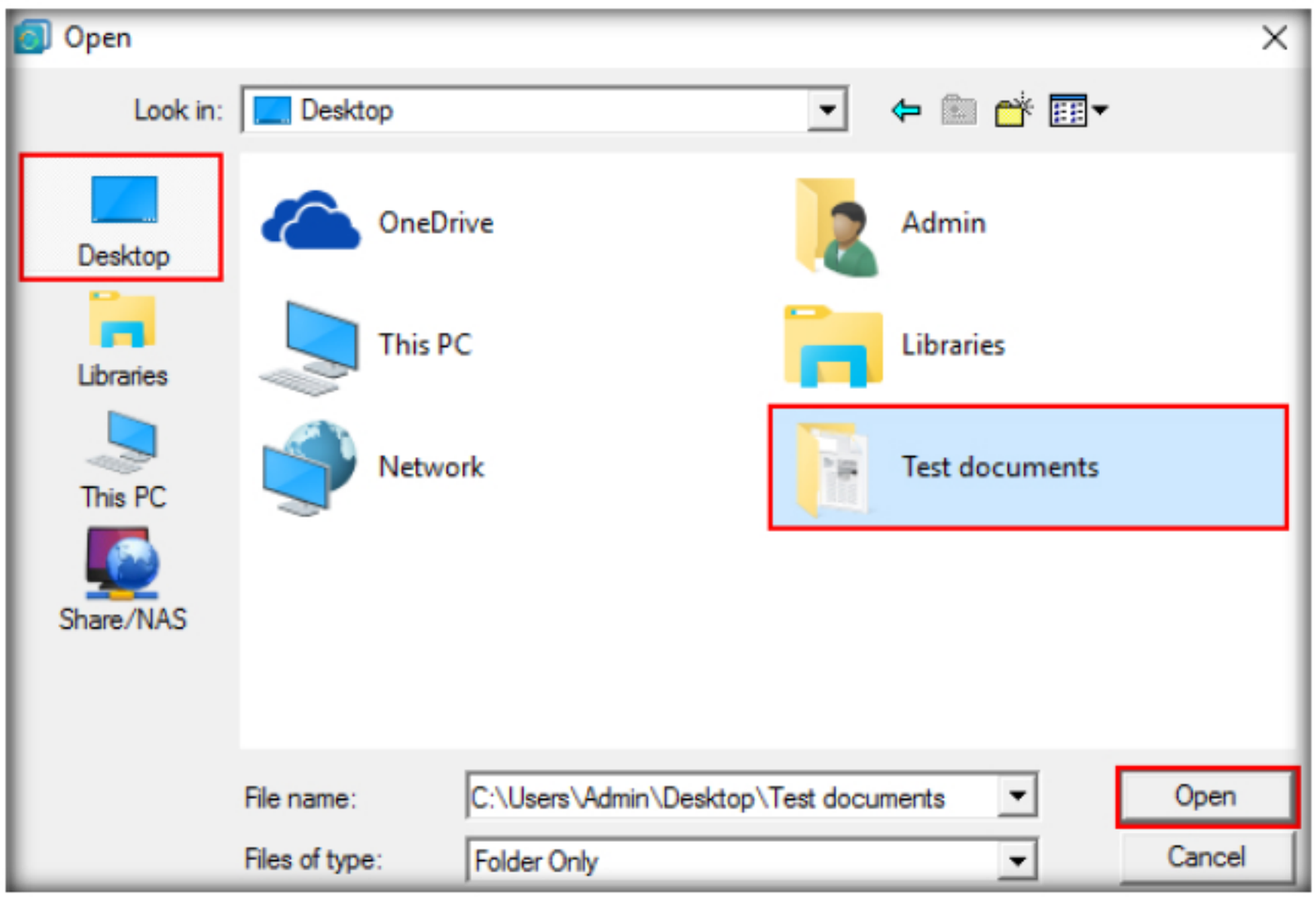

FIGURE 1.9: Selecting folder for backup

12. The **select folder** window appears with the backup folder/file path. Make sure that the **Include subfolders** option is checked (with this option selected if there are subfolders AOMEI Backupper will include those) then click **OK**.

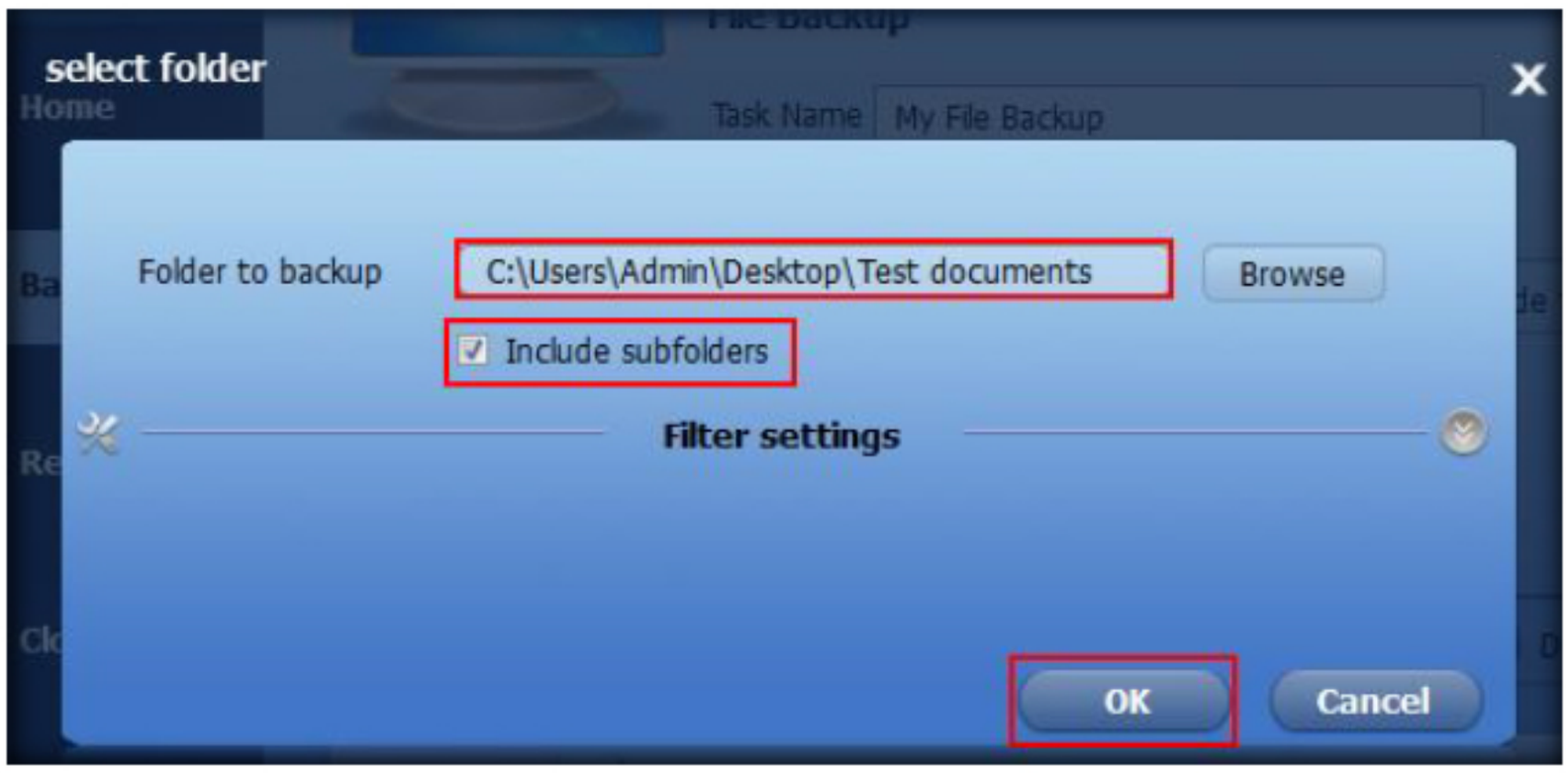

FIGURE 1.10: Folder backup

Full Backup - A Full backup has two disadvantages. It costs more time. The image file of a full backup requires more storage space.

13. The **File Backup** window appears. Click the **Schedule** checkbox at the bottom of window.
14. The **Schedule Settings** window appears. Click the **Advanced** tab.

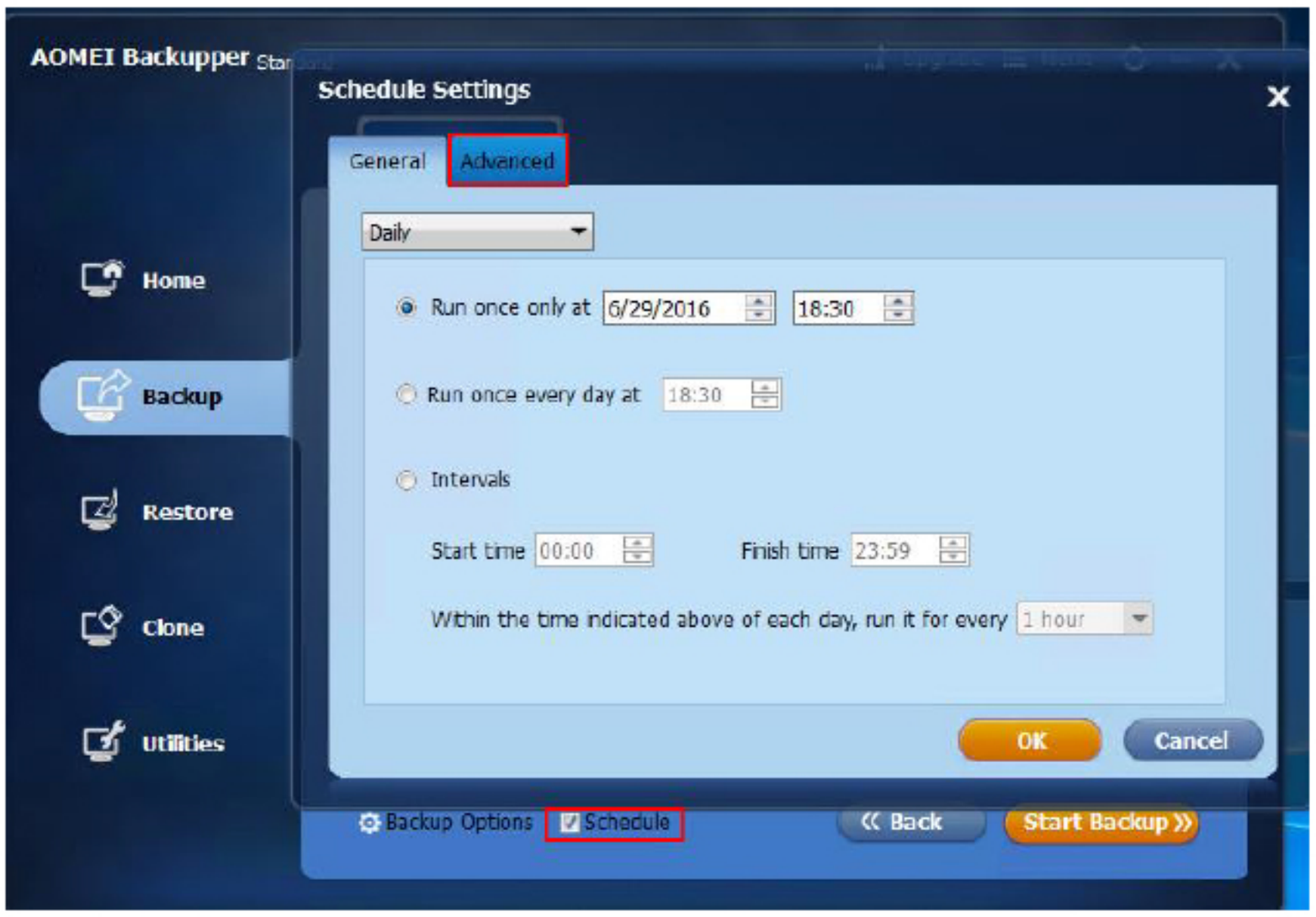

FIGURE 1.11: Schedule Settings

Full Backup - There isn't any way to remove the reduplicative data but to delete the image file of the last full backup. Luckily, the appearance of incremental backups make it possible to figure out all these problems.

15. Click the **Full Backup** radio button and uncheck the **Run missed backup at the next system startup** checkbox. Click **OK**.

Full Backup - The most used and most popular backup methods are System Backup, Partition Backup and Disk Backup. These three backup modes can provide useful and effective ways to create a full backup for their partition, system or even the entire disk.

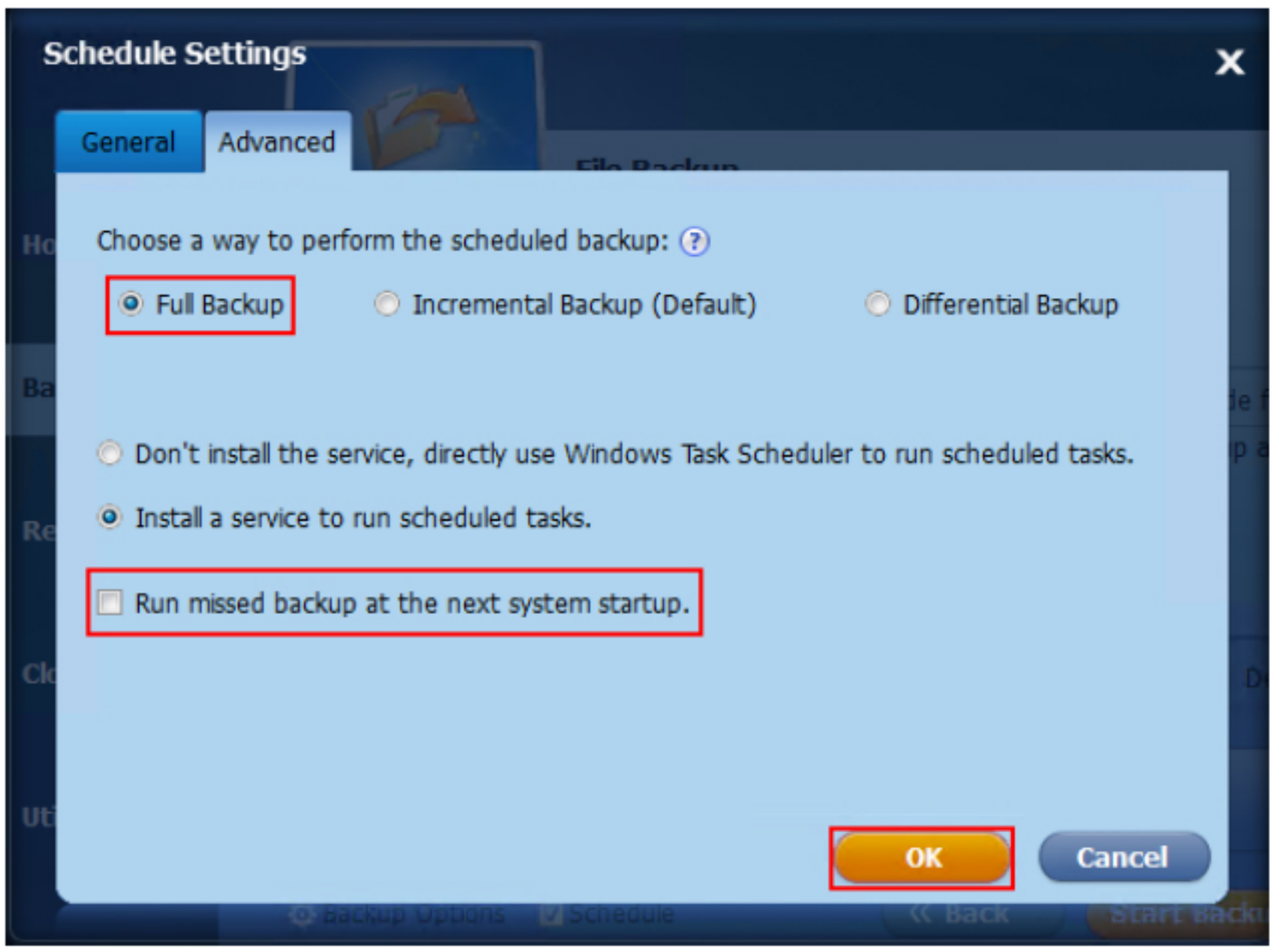

FIGURE 1.12: Selecting Full backup

16. Click **Start Backup** and click **Add the schedule and start backup now**.

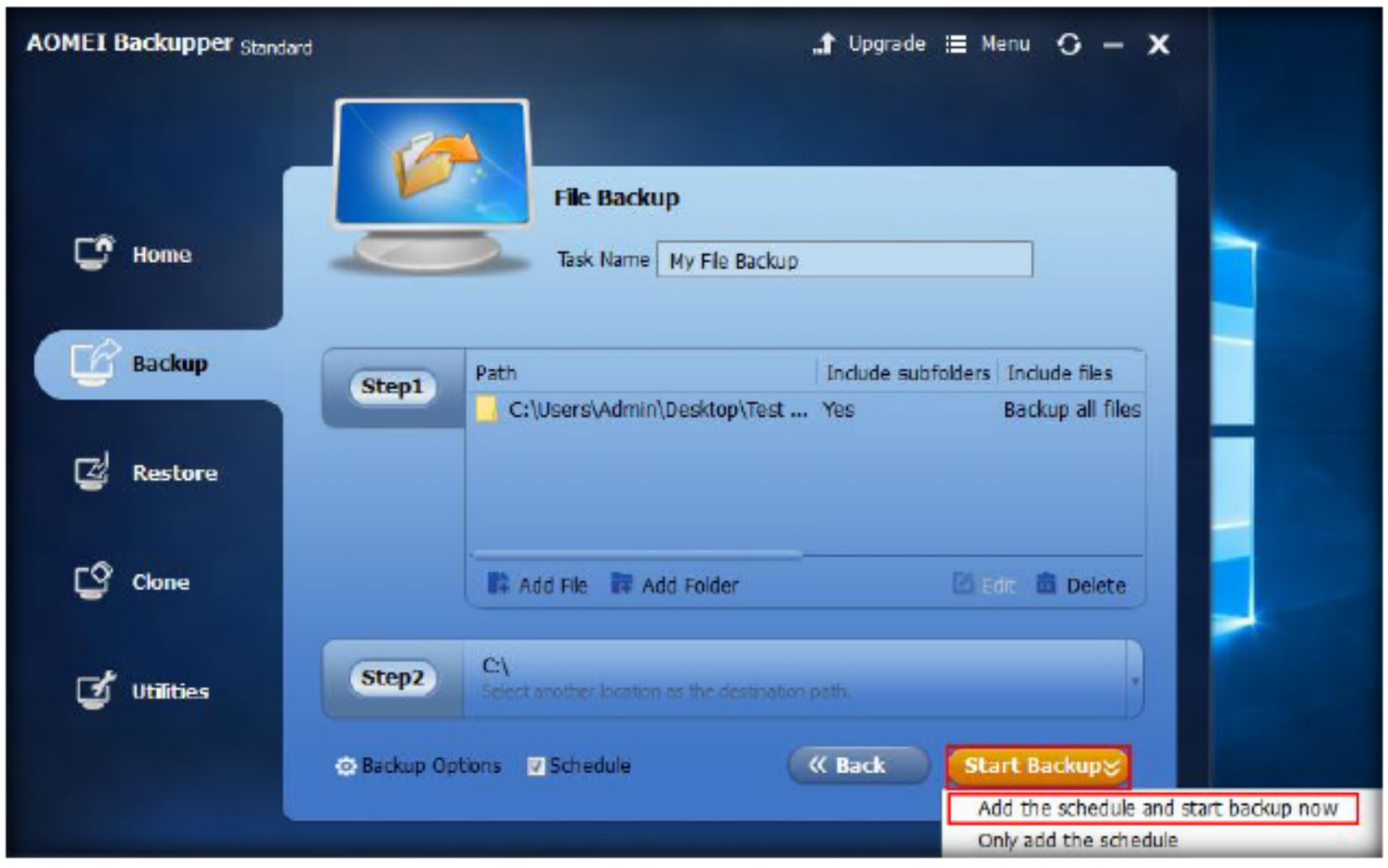

FIGURE 1.13: Selecting file

Note: The backup file will be stored in **Drive C**. If you want to change the location, click **Step2** and select a different location.

17. Once the backup is completed, AOMEI Backupper will store the backup file in the default location, in this lab the default location is **C:\My File Backup** then click **Finish**.

File Backup refers to backing up a specified file or folder to prevent data loss. For instance, you can create backups for your family pictures, favorite music or other files.

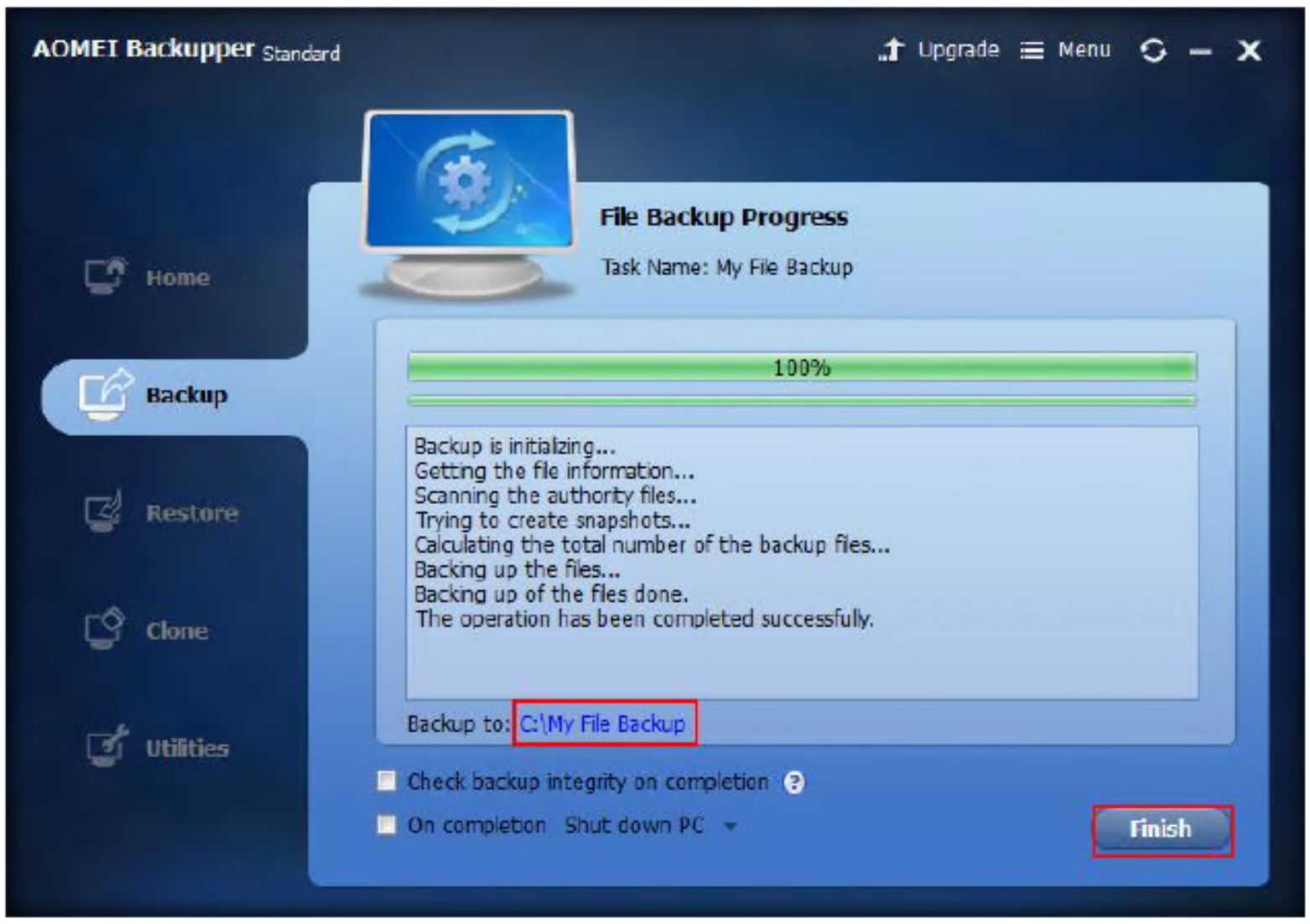

FIGURE 1.14: Backup file stored

18. The **Backup Management** window appears. **My File Backup** is created. Click **Restore** to restore the file.

File Backup is more convenient than a full backup, because it can directly backup the needed files and avoid the undesired ones. This will not only save much of the operating time but also the storage space.

FIGURE 1.15: Backup file

19. Navigate to **This PC → Local Disk(C:) → My File Backup** to view the backup file, selected for restoration.

Data which is stored on your computer can be very fragile and vulnerable to attack. Without a sophisticated backup in advance, the data can be easily damaged or lost due to a system crash, software conflict, virus attack or human errors.

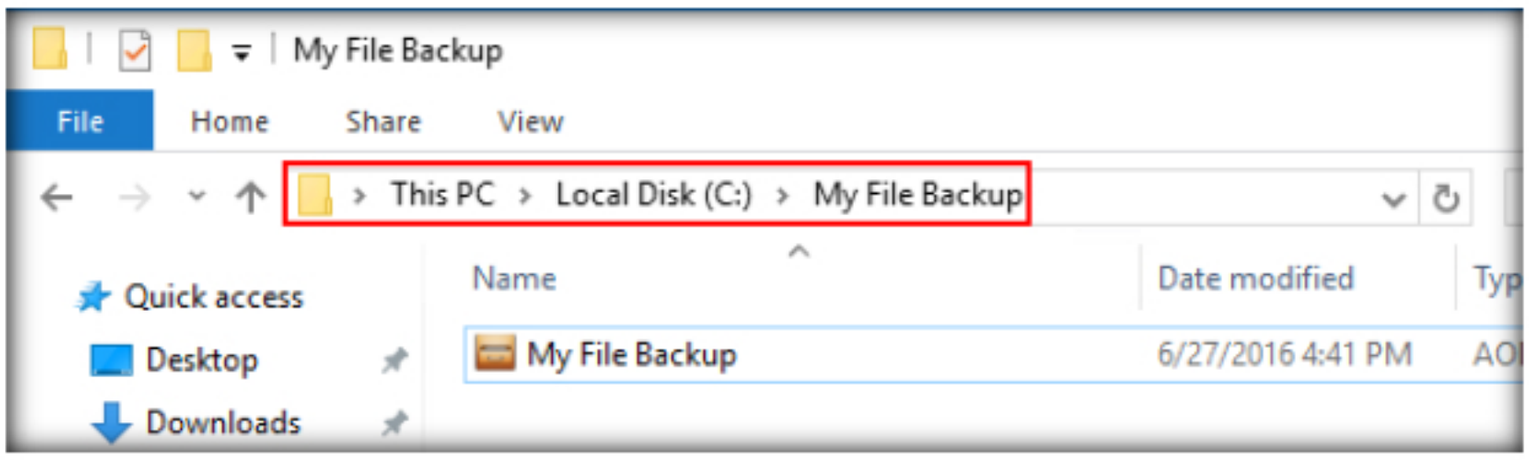

FIGURE 1.16: Backup file

20. Create a new file with a name of **abc1.doc** in the **Test Documents** folder on the **Desktop**, this will add data into existing folder, as shown in the screenshot.

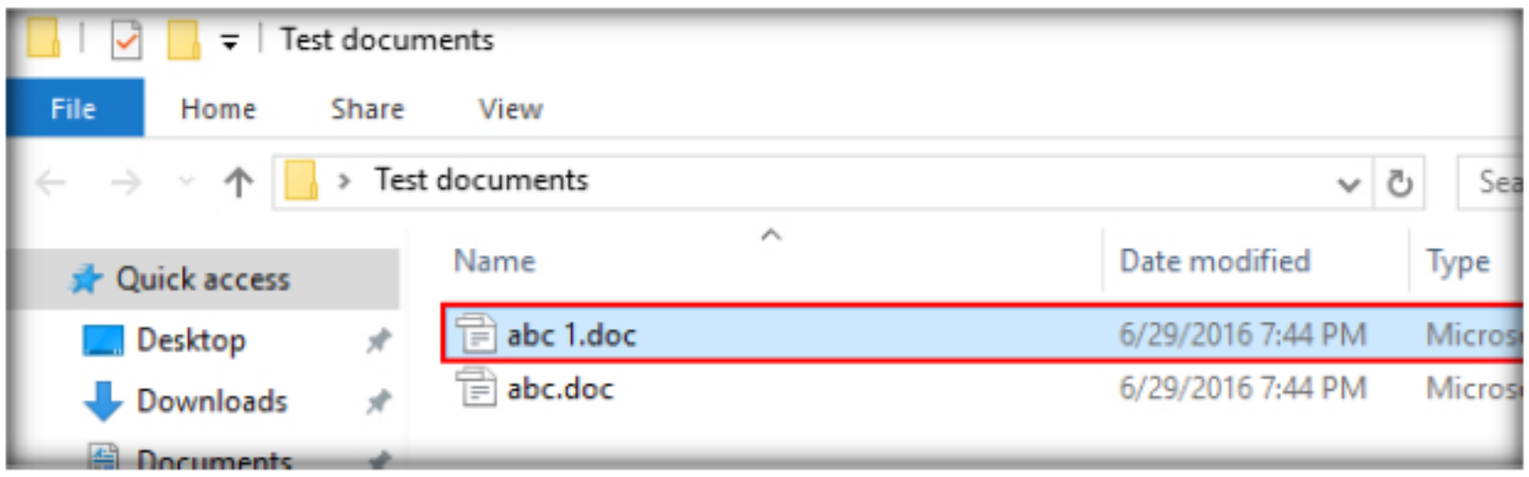

FIGURE 1.17: New file created

TASK 2

Incremental Backup

21. Switch to the **AOMEI Backupper Standard** window and click the **Backup** tab in the left pane.

You are advised to backup files regularly. You can set up a scheduled backup or manually backup those files at any time.

FIGURE 1.18: Navigating to Backup

22. Click **File Backup**.

FIGURE 1.19: Navigating to file backup

Incremental backup refers to backing up the data which has changed and any new data added based on the first full backup or the last backup.

23. The **File Backup** window appears. Click **Add Folder**.

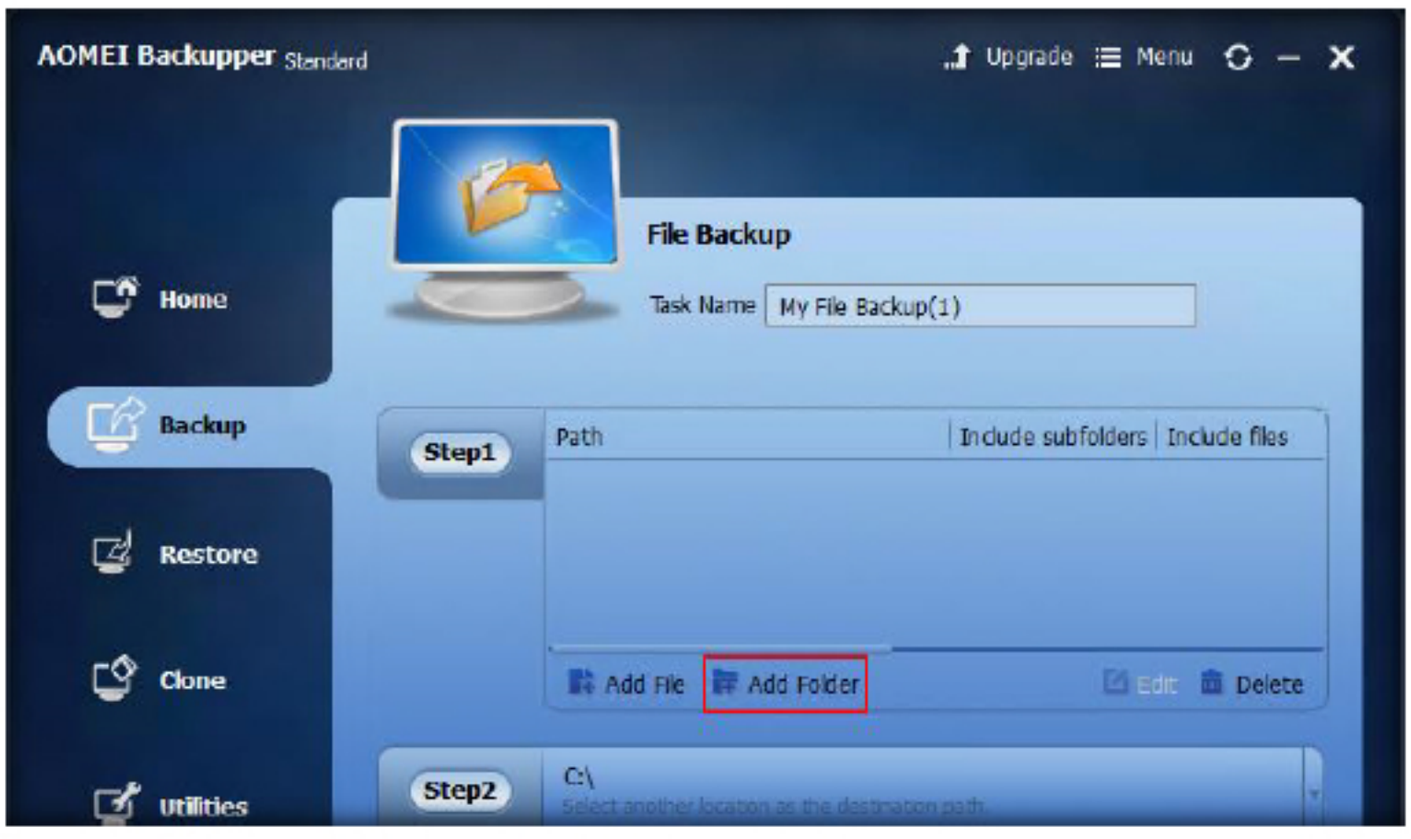

FIGURE 1.20: Navigating to add folder

An Incremental backup will not back up the identical data based on the last backup. An Incremental only backs up the data which has changed since the last incremental backup was performed.

24. The **select folder** window appears. Click **Browse**.

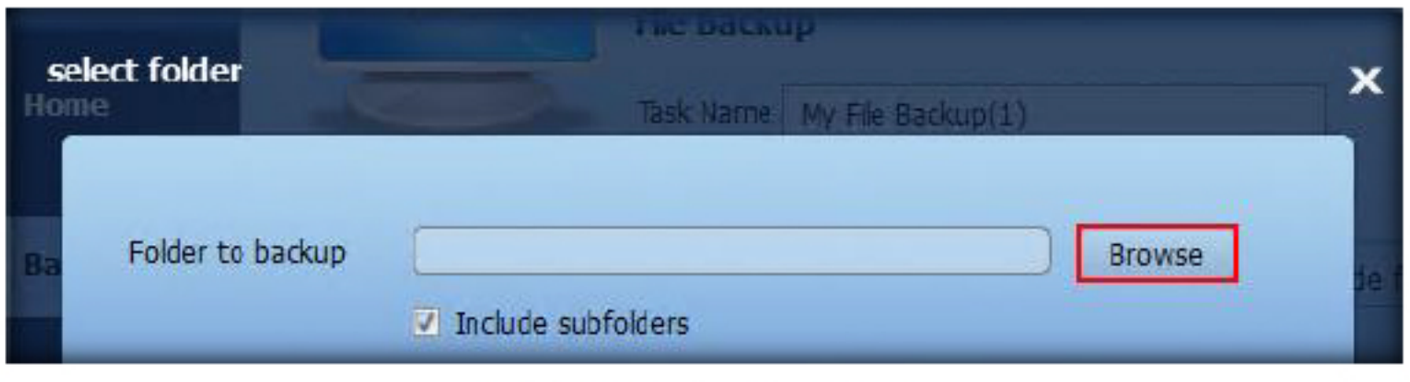

FIGURE 1.21: Browsing the folder

That is to say, each backup will create an image file, and all the image files are related. The last image file of an incremental backup is based on the previous image file.

25. The **Open** window appears. Navigate to the **Desktop** and select the folder you want to backup, (in this lab **Test Documents** is the folder) then click **Open**.

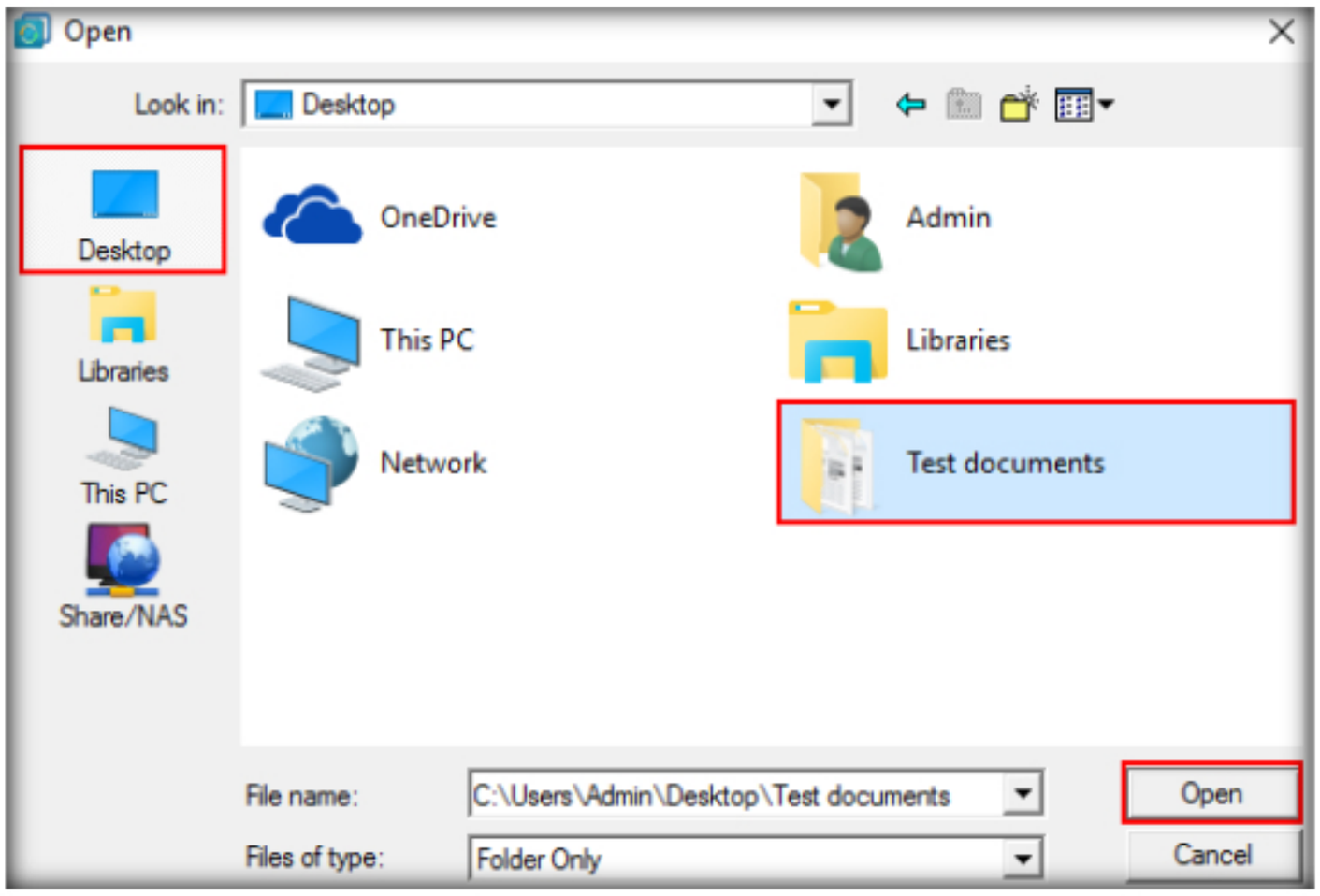

FIGURE 1.22: Select Folder for Backup

26. **The select folder** window appears with the backup folder/file path, make sure that the **Include subfolders** option is checked, (with this option if there are any subfolders AOMEI Backupper will include those in the backup) then click **OK**.

No one enjoys the tedious process of backups, but the pain of losing precious family pictures, sensitive files and your favorite music can be very annoying. You cannot afford to lose any of those valuable files because most of them are irreplaceable.

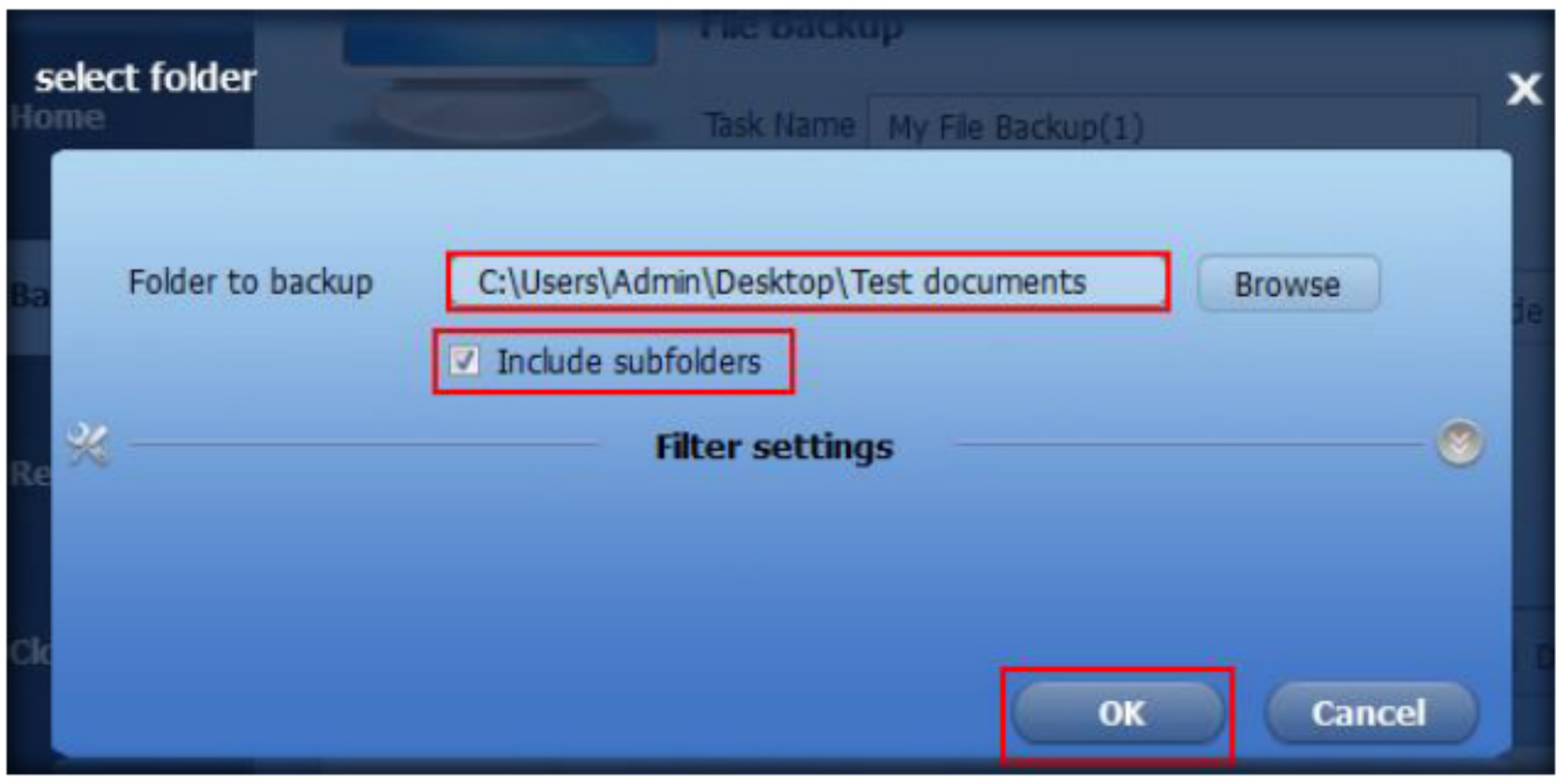

FIGURE 1.23: Selecting the folder

27. The **File Backup** window appears. Click the **Schedule** checkbox at the bottom of window.

28. The **Schedule Settings** window appears. Click the **Advanced** tab.

The main function of a File Backup is to strengthen the data security. This feature recovers the backed up image file safely no matter if the file is lost.

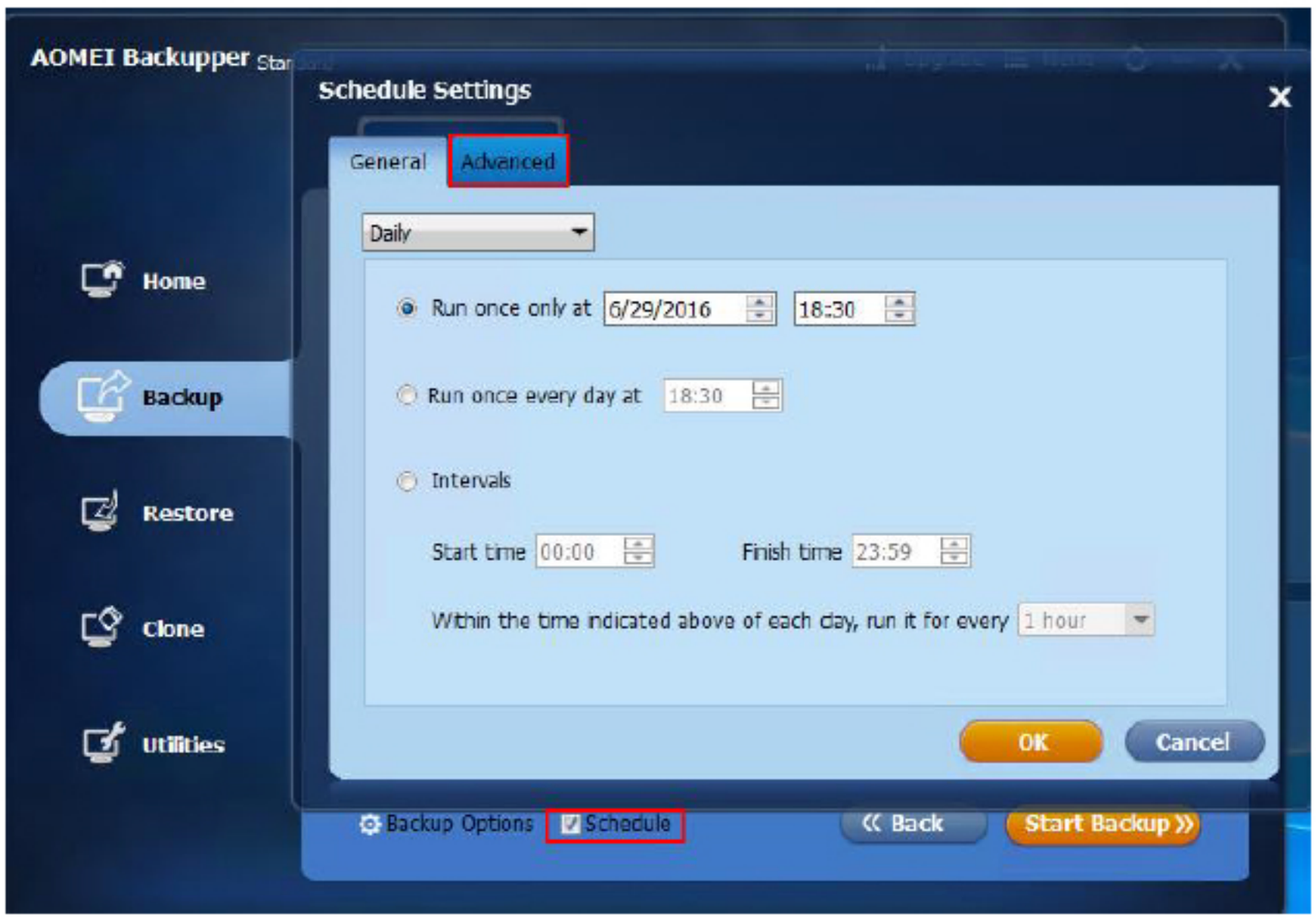

FIGURE 1.24: Navigating to Advanced tab

29. Click the **Incremental Backup (Default)** radio button and uncheck the **Run missed backup at the next system startup** checkbox. Click **OK**.

Everyone has their own backup preference. Which files and folders should be chosen to backup depends on the user's specific needs. Here we listed some of the frequent objects; they are described here for informational purposes only.

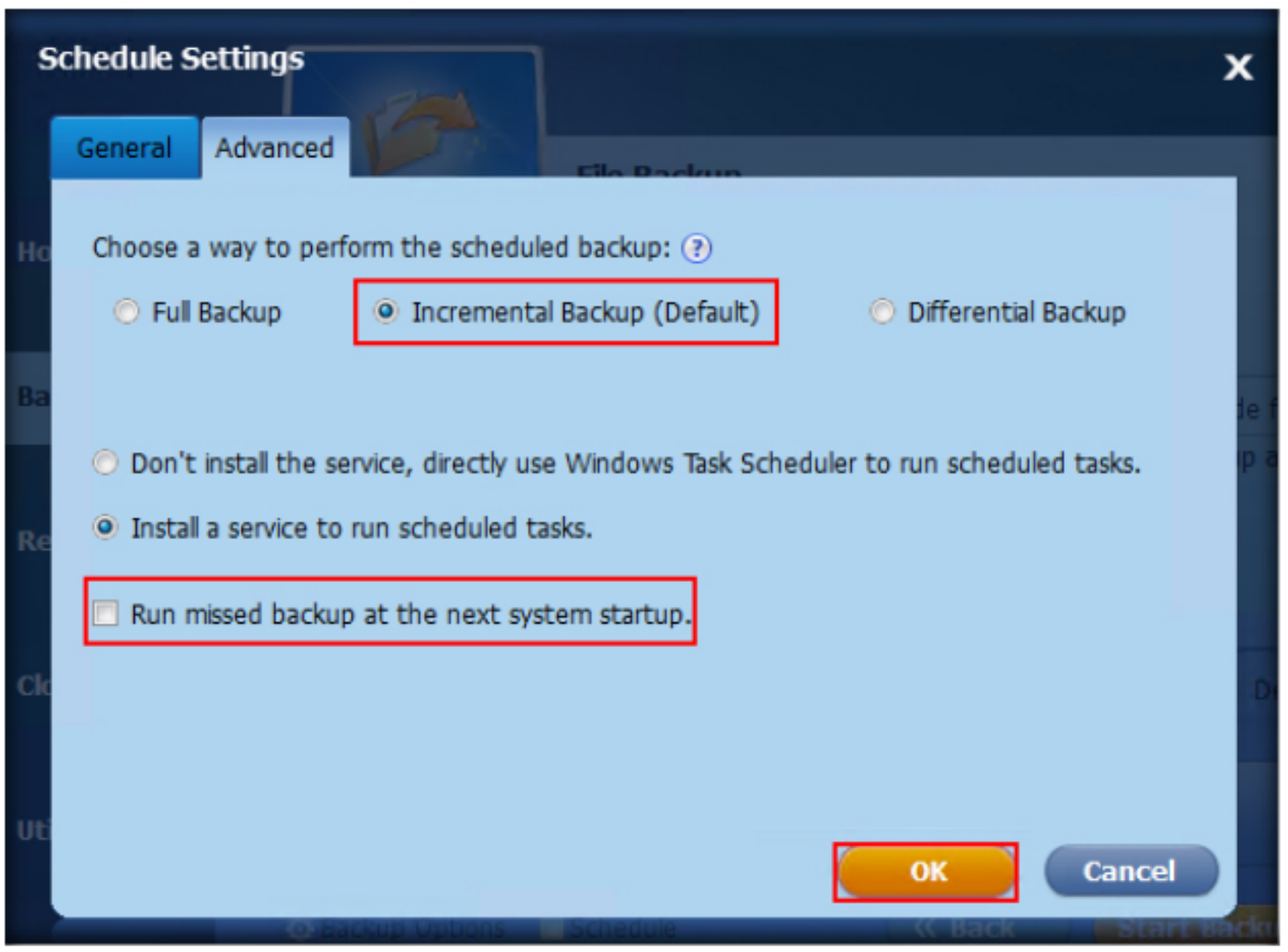

FIGURE 1.25: Selecting incremental backup

30. Click **Start Backup** then click **Add the schedule and start backup now.**

Documents: You should backup your documents which include your current work contents. Also the temporary folders.

FIGURE 1.26: Starting the backup

31. Once the backup is completed, AOMEI Backupper will store the backup file in the default location, (in this lab the default location is **C:\My File Backup(1)**) then click **Finish**.

Music: If you don't want to disappoint yourself, backup your MP3 downloads which you've paid lots of money for. Because you'll probably be depressed to lose them.

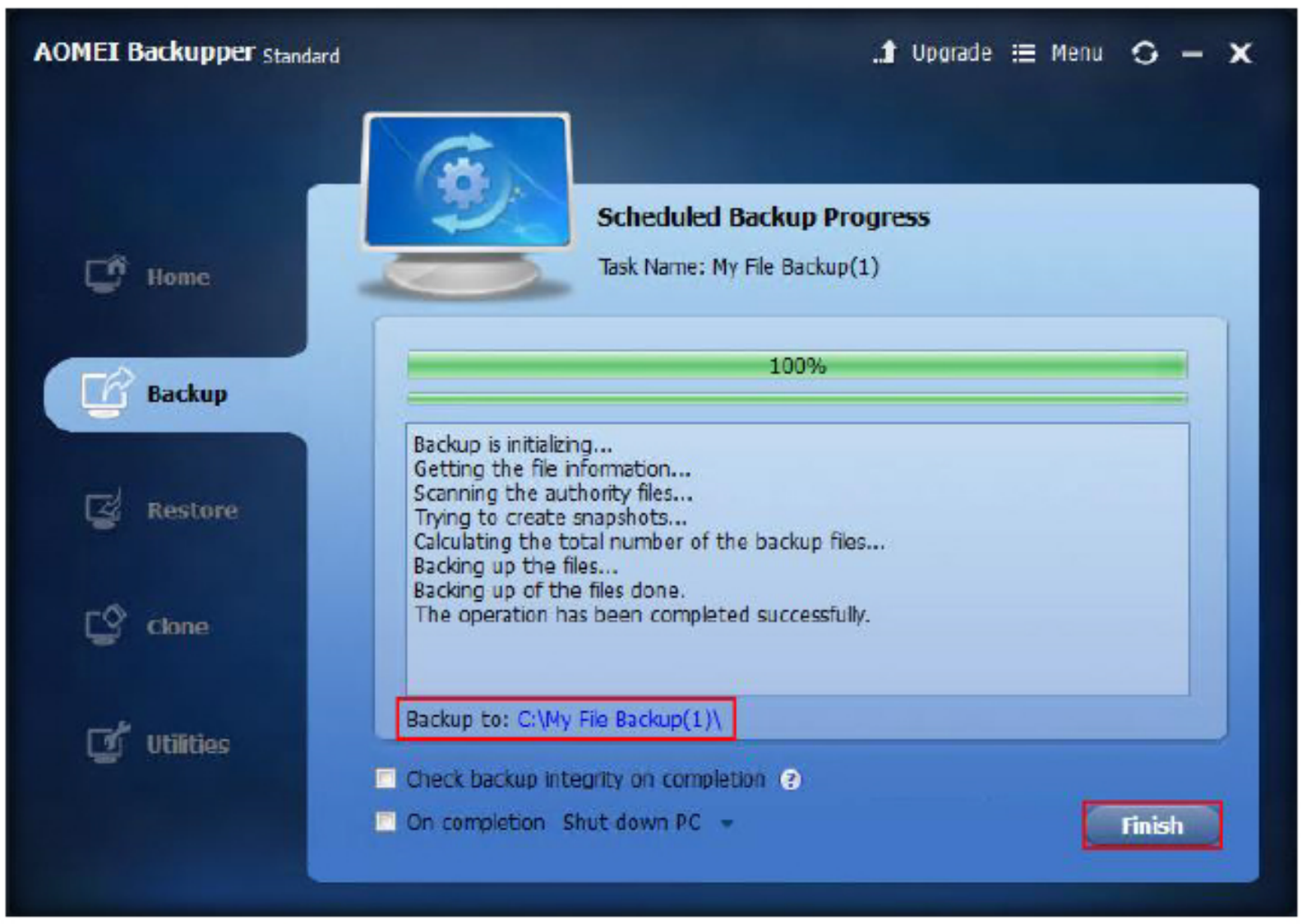

FIGURE 1.27: Incremental backup completed

32. The **Backup Management** window appears. You can see the new backup file created.

Pictures and Videos: Family pictures and videos are priceless. It will not take too much time to backup them up, remind yourself to back them up regularly if you can.

FIGURE 1.28: Incremental back up file

33. Create a new file named **abc2.doc** in the **Test Documents** folder on the **Desktop** to add data into the existing folder, as shown in the screenshot.

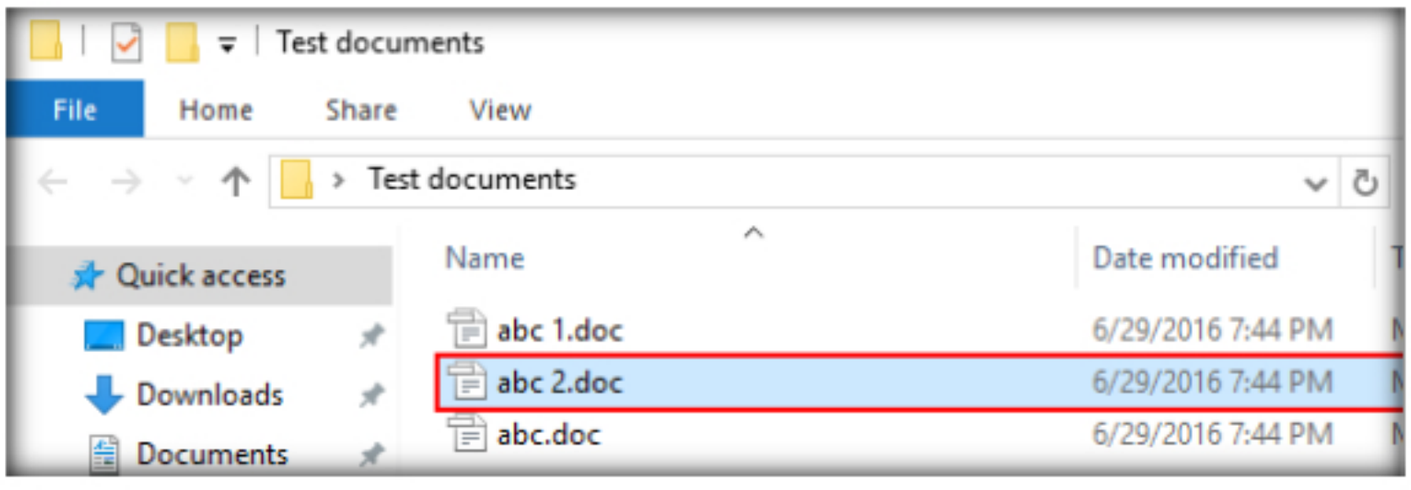

FIGURE 1.29: creating new file

34. Switch to the **AOMEI Backupper Standard** window and click the **Backup** tab in the left pane.

TASK 3

Differential Backup

Similar to incremental backup, differential backup is used to back up the changed data based on the last full backup.

FIGURE 1.30: Navigating to Backup tab

35. Click **File Backup**.

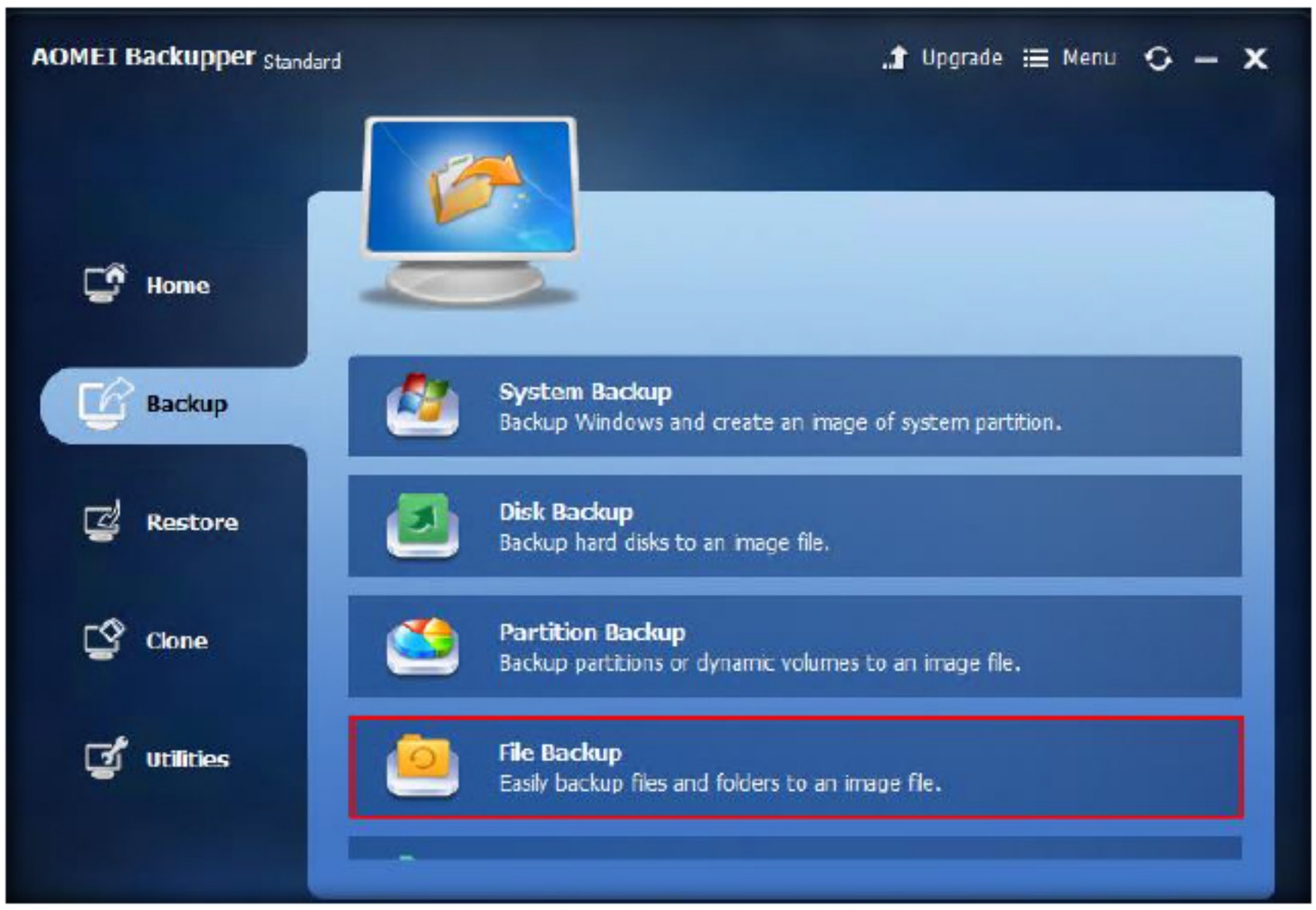

FIGURE 1.31: File backup

36. The **File Backup** window appears. Click **Add Folder**.

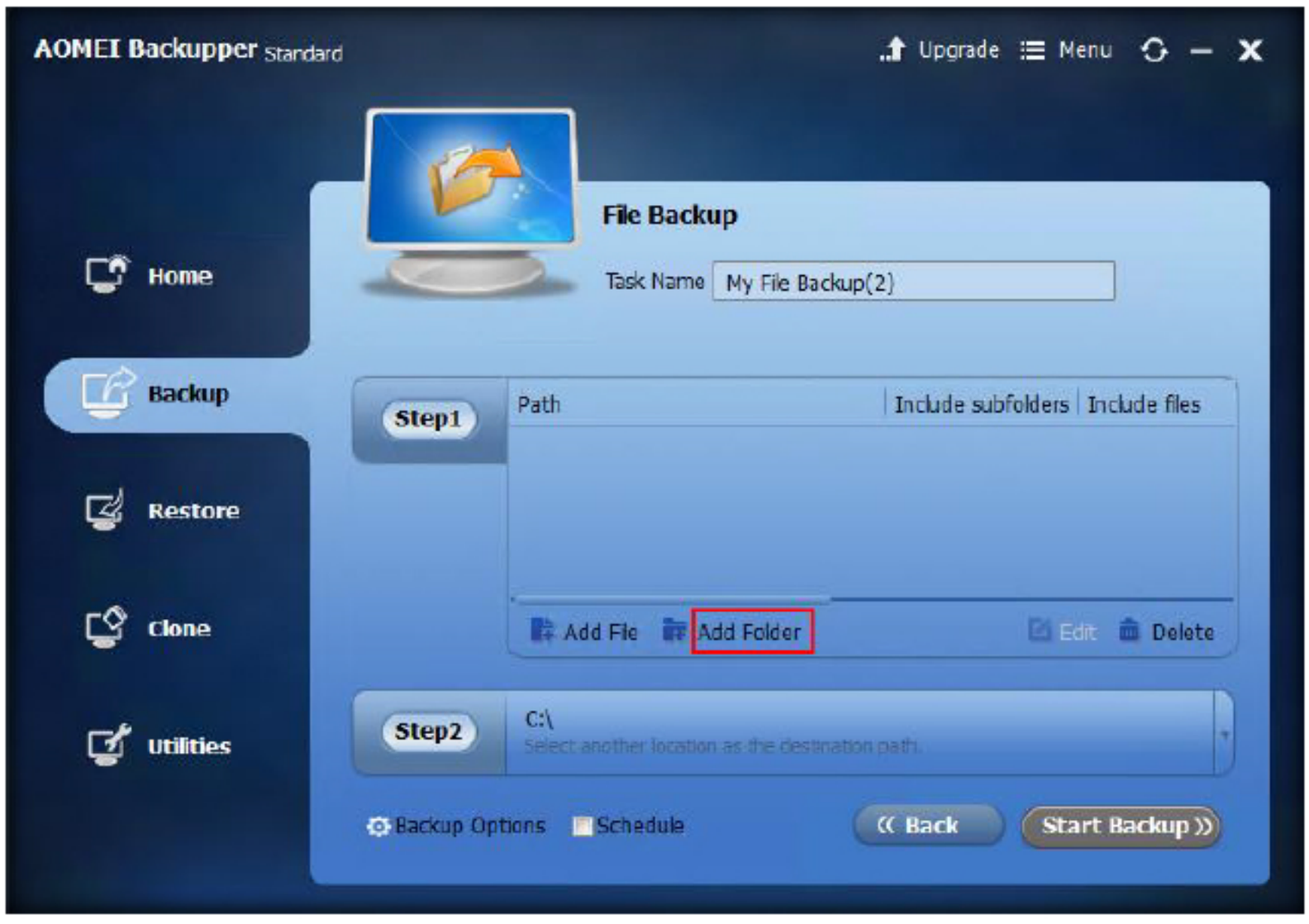

FIGURE 1.32: Navigating to add a folder

That is to say, it is based on a full backup, not an incremental backup. As for its advantage, it can help to improve backup efficiency and reduce storage disk space required by the image file.

37. The **select folder** window appears. Click **Browse**.

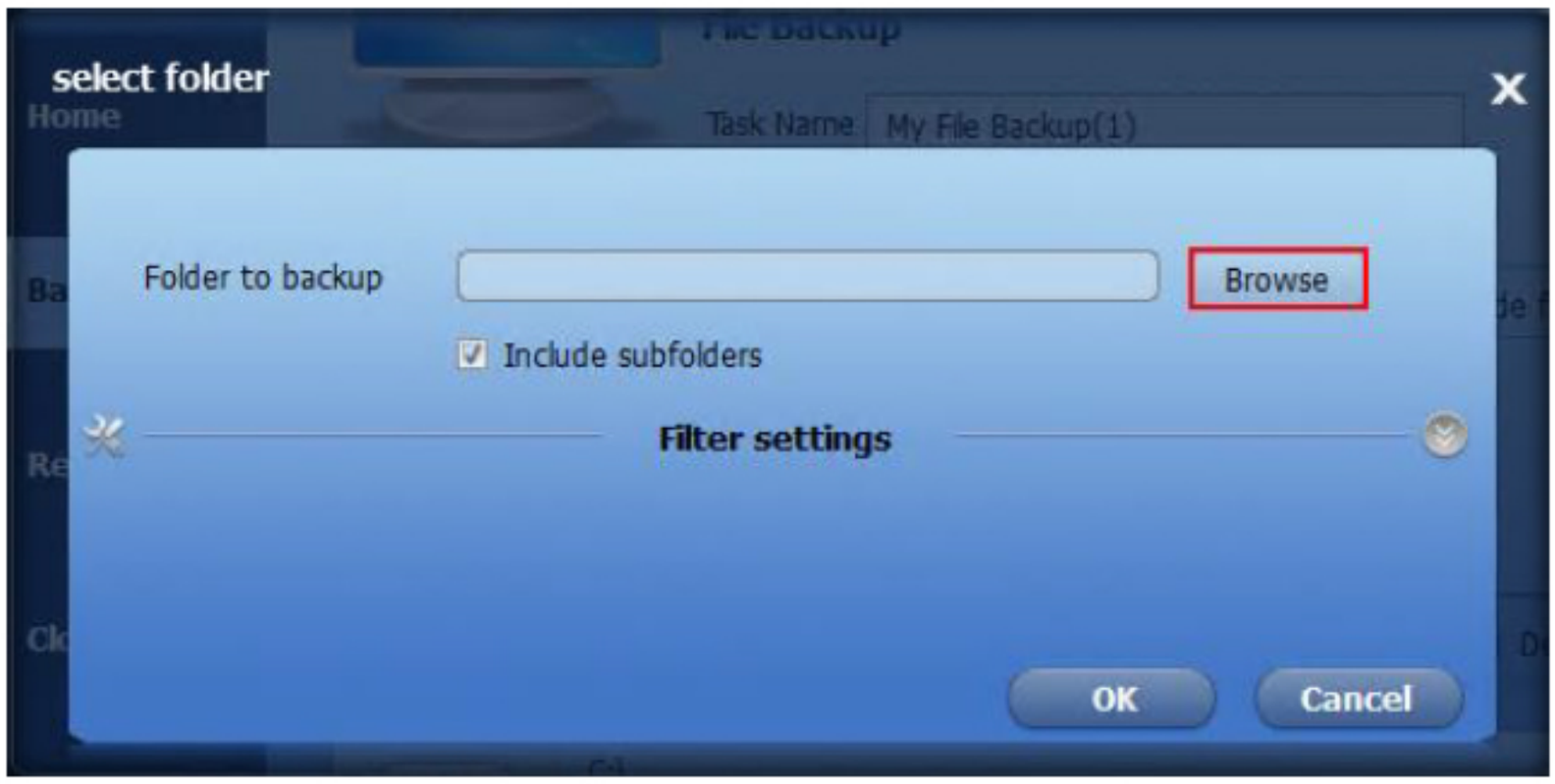

FIGURE 1.33: Browsing the folder

38. The **Open** window appears. Navigate to **D:\CND-Tools\CND Module 13 Data Backup and Recovery\Data Backup Tools for Windows\AOMEI Backupper** then click on **Test documents**. Click **Open**.

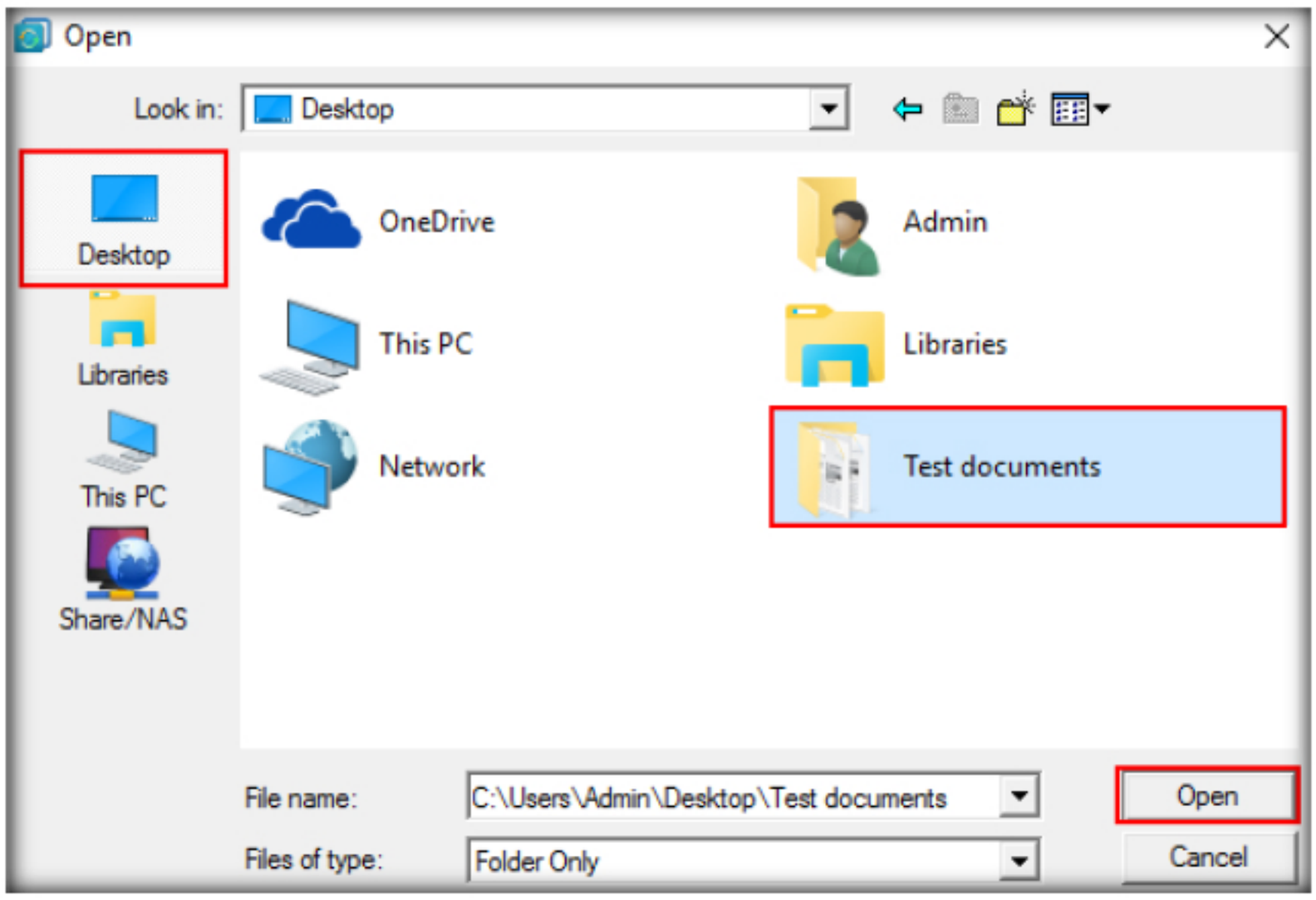

FIGURE 1.34: choosing the folder

According to the principals of the three backups, full backup is the slowest one while incremental backup is the fastest one.

As for differential backup, it lies between full backup and incremental backup and is of moderate speed. However, this is not always true.

39. The **select folder** window appears with the backup folder/file path, make sure that the **Include subfolders** option is checked, (with this option selected any subfolders will be included by AOMEI Backupper) then click **OK**.

For example, if the newly added or changed files contain more data than the original ones, the incremental backup and the differential backup are both slower than the first full backup.

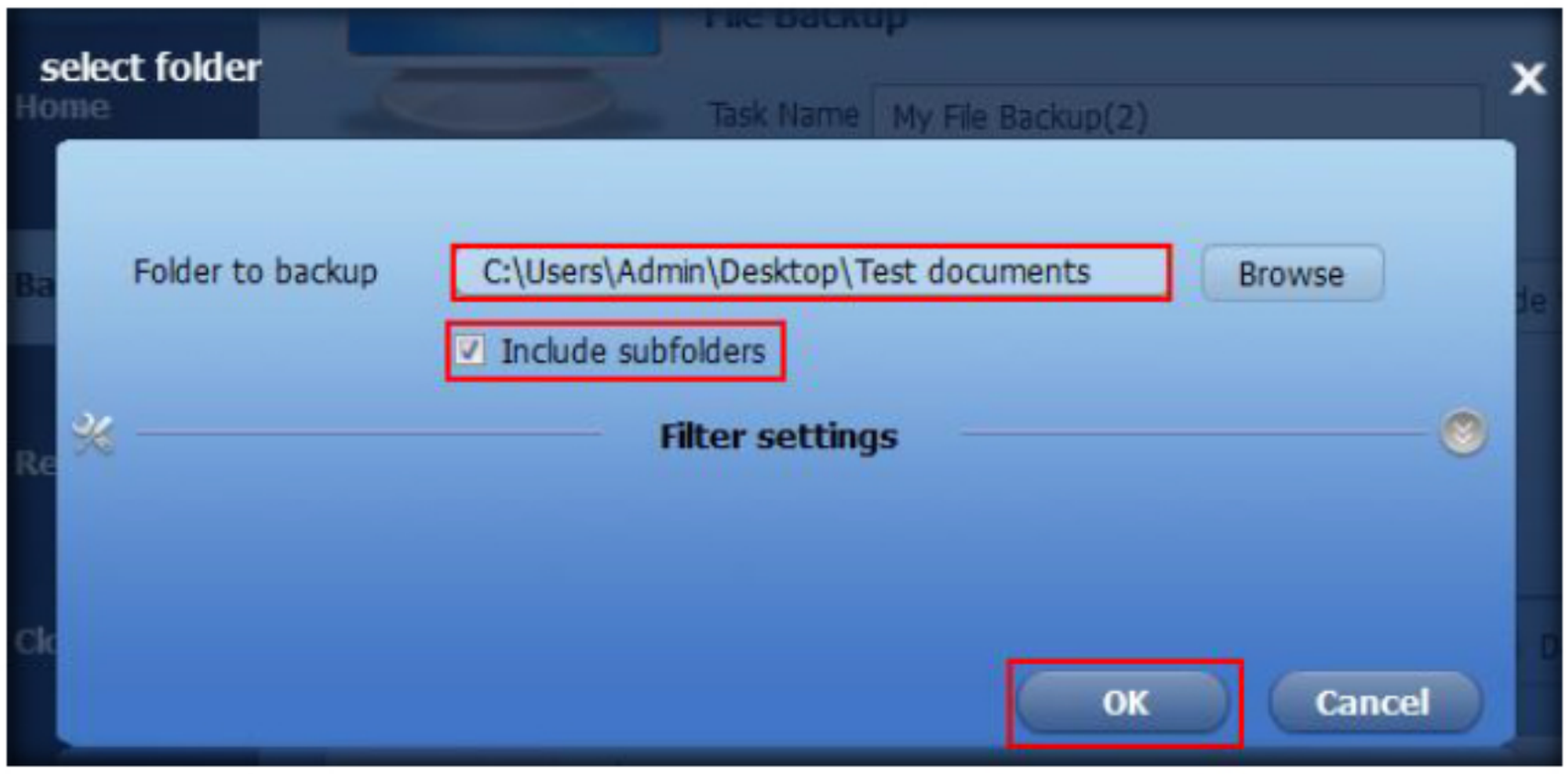

FIGURE 1.35: Selecting the folder

40. The **File Backup** window appears. Click the **Schedule** checkbox at the end of window.
41. The **Schedule Settings** window appears. Click the **Advanced** tab.

Besides, after the first full backup, if there are only new files included and not any original files bearing data deletion, then, differential backup and incremental backup will cost the same amount of time.

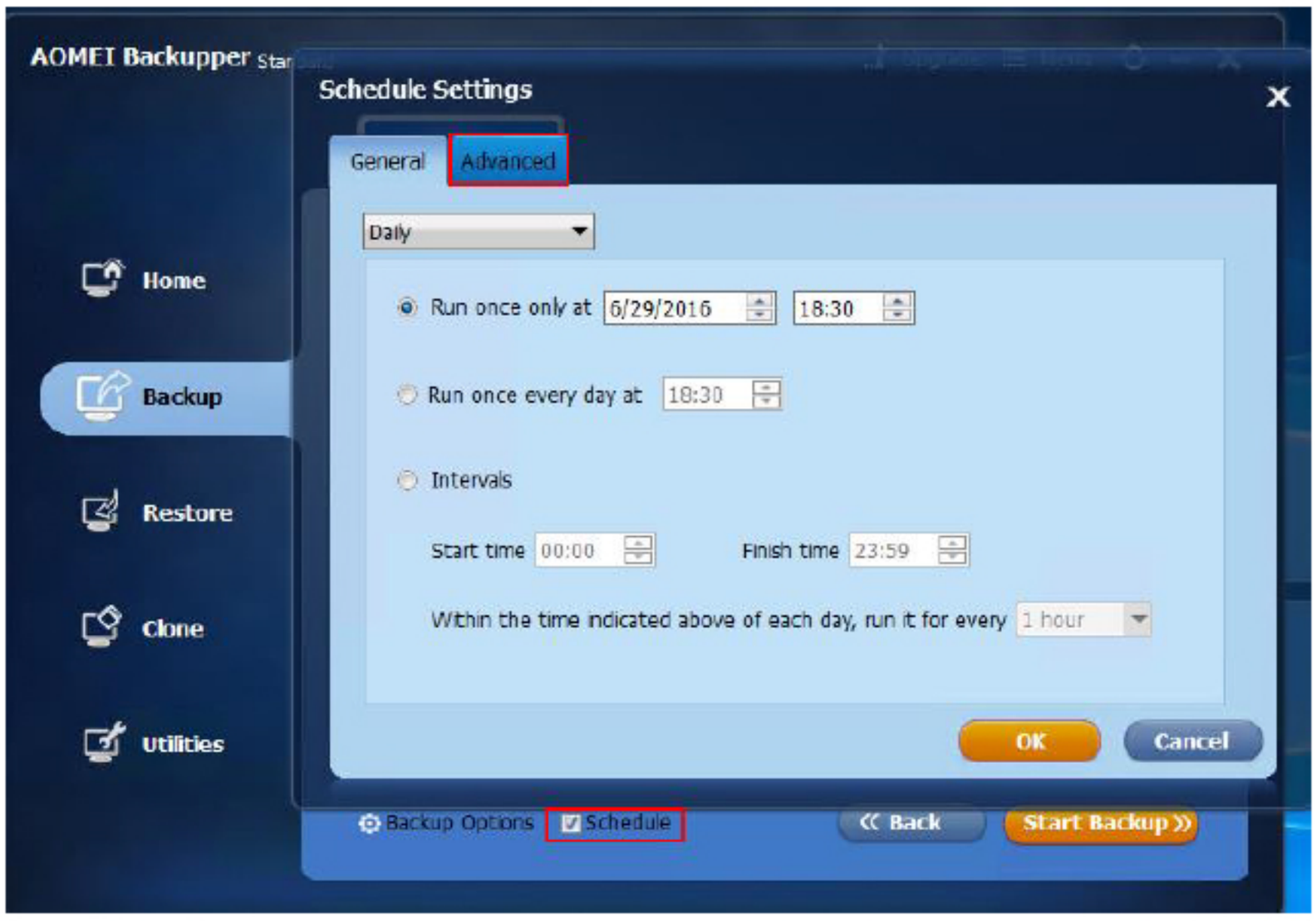

FIGURE 1.36: Navigating to advanced schedule settings

42. Click the **Differential Backup** radio button and uncheck the **Run missed backup at the next system startup** checkbox. Click **OK**.

A differential backup requires more space to store its image files than an incremental backup but requires less than a full backup. Also, this cannot be applied in every situation.

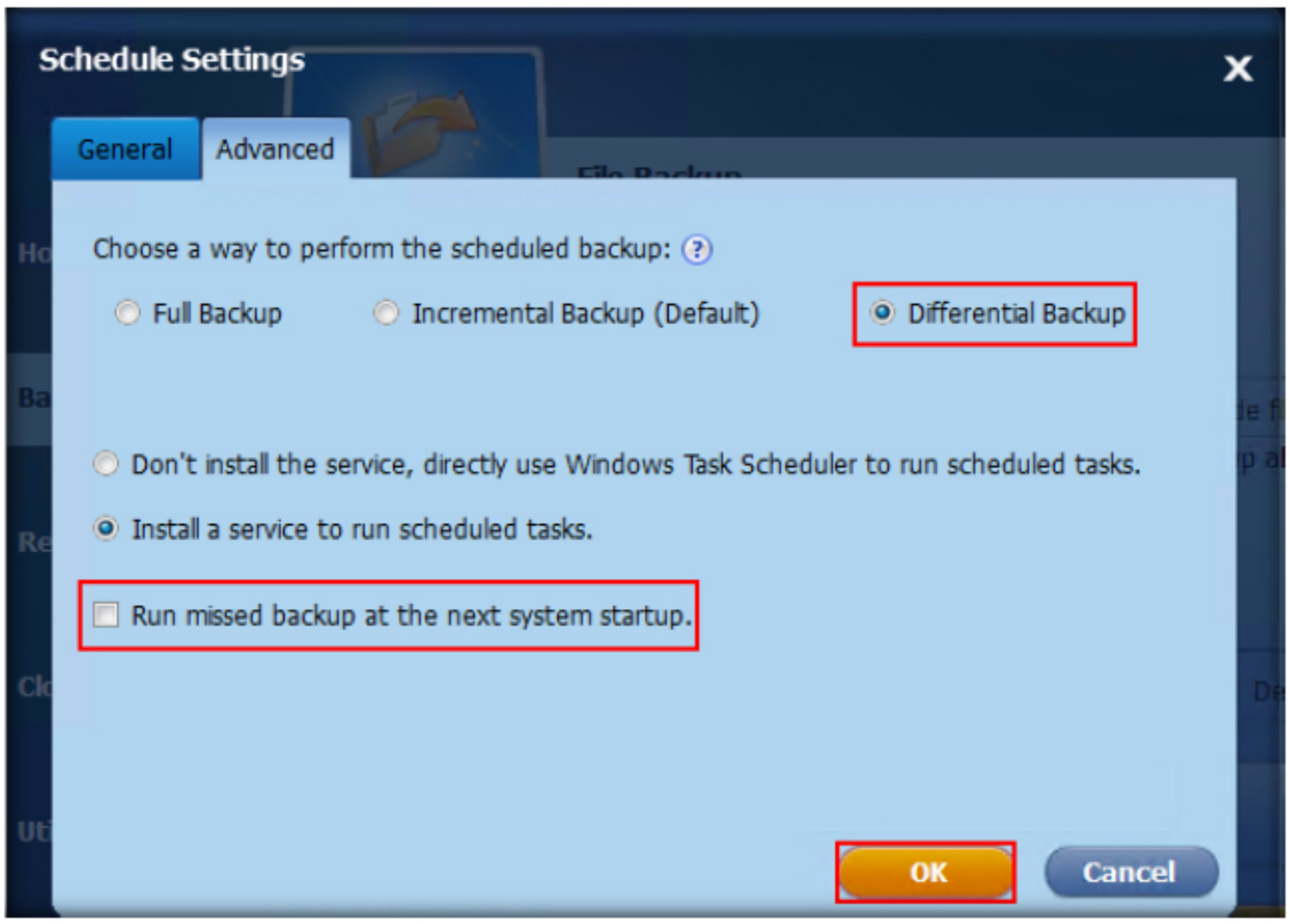

FIGURE 1.37: Navigating to Differential backup

43. Click **Start Backup** then click **Add the schedule and Start backup now**.

The backup speed rank of the three types of backups is turned upside-down when it comes to restoration. Nevertheless, it is not difficult to understand. If we restore our computers from the image files of full backups, we only need to add the latest image file into restoration list.

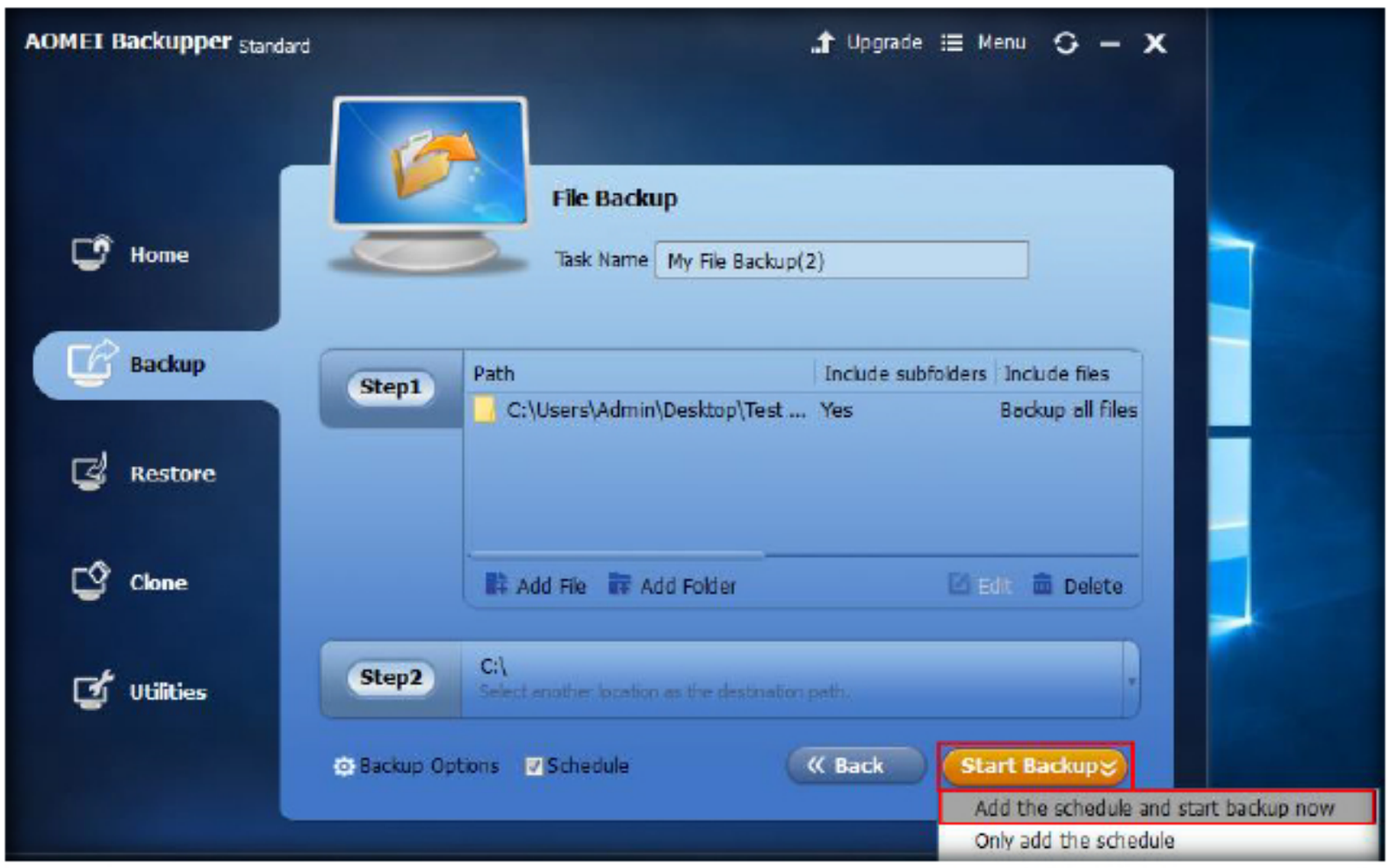

FIGURE 1.38: Starting the backup

44. Wait for the backup to complete. Take note of the location, then click **Finish**.

If you restore from a differential backup, you need to add both the first full backup image file and the latest differential backup image file into the restoration list. However, if restoring from an incremental backup, you only include the first full backup image file and all the later incremental backup image files in the restoration list.

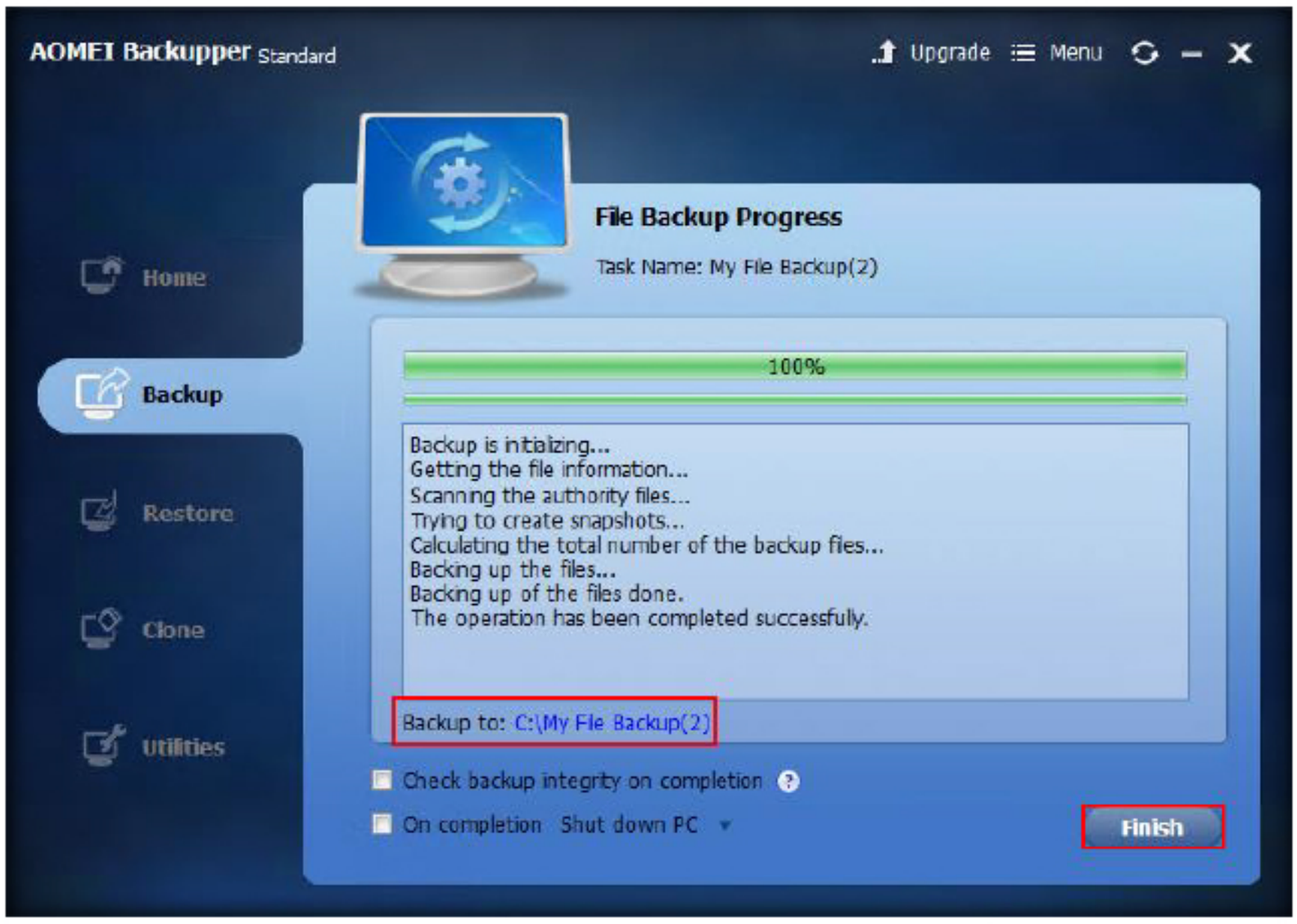

FIGURE 1.39: Differential backup completed

45. You can view the new backup file created.

A full backup becomes the fastest while incremental backup falls into the slowest. It is not because full backup deals with less data but because an incremental backup requires more operational steps.

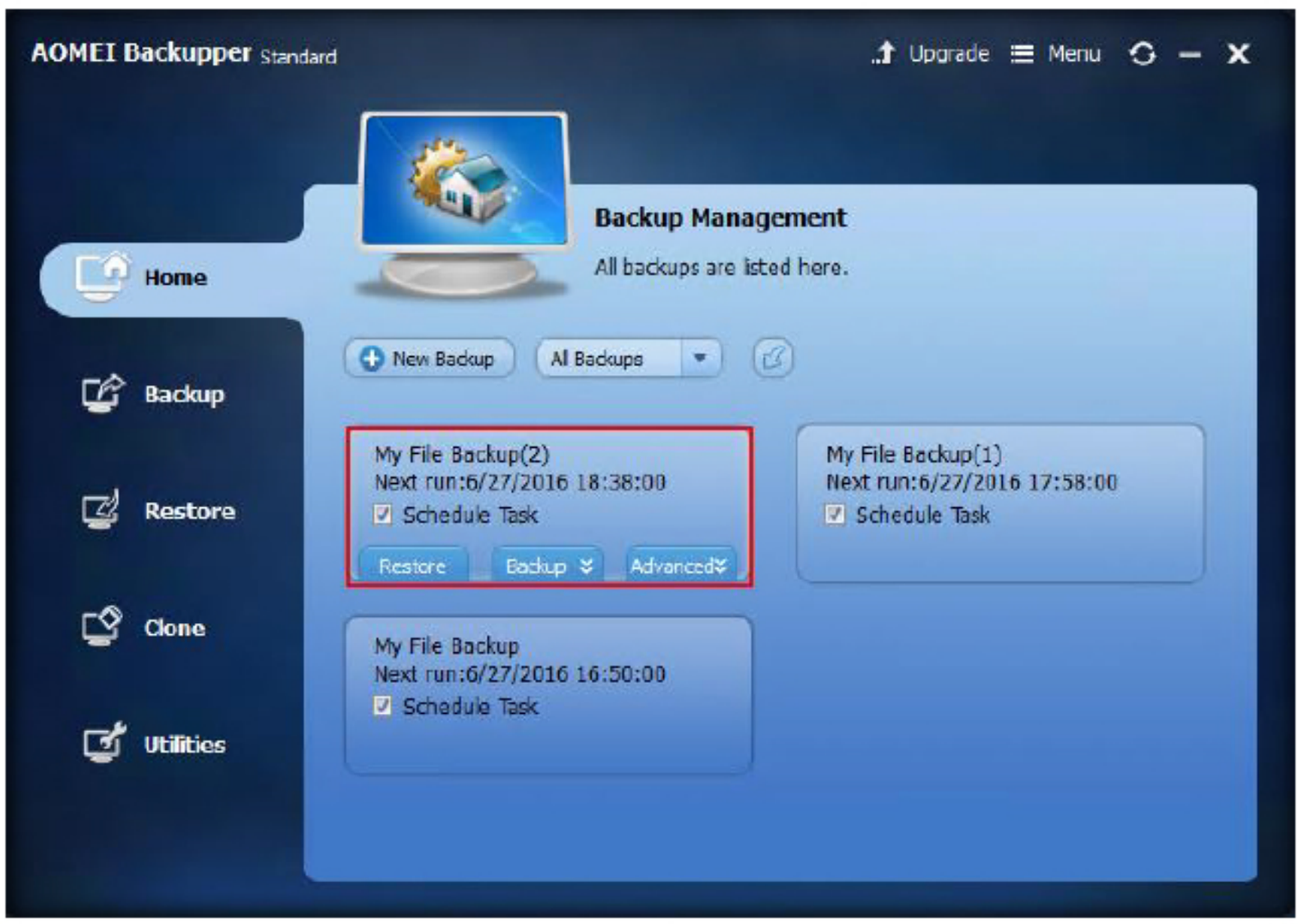

FIGURE 1.40: Differential Backup file created

46. Following the steps in this lab, you can create different types of backups using AOMEI Backupper.

Lab Analysis

Analyze and document the results of the lab exercise. Give your opinion on your target's security posture and exposure through free public information.

PLEASE TALK TO YOUR INSTRUCTOR IF YOU HAVE QUESTIONS RELATED TO THIS LAB.

Internet Connection Required	
☐ Yes	☑ No
Platform Supported	
☑ Classroom	☑ iLabs

Lab 2

File Recovery Using EaseUS Data Recovery Wizard

EaseUS Data Recovery Wizard is recovery software for Windows that supports files, partitions, and the complete recovery of data.

ICON KEY

- Valuable information
- Test your knowledge
- Web exercise
- Workbook review

Lab Scenario

As a **Network Administrator**, you should know how to recover deleted files and partitions which have been deleted accidently by users or from a catastrophe using recovery techniques or proprietary applications to obtain the critical information.

Lab Objectives

The objective of this lab is to demonstrate the use of EaseUS Data Recovery Wizard, by intentionally deleting a few files and then recovering them.

Lab Environment

To carry out the lab, you need:

- A system running **Windows 10**
- EASEUS Data Recovery Wizard, located at **Z:\CND-Tools\CND Module 13 Data Backup and Recovery\Windows Data Recovery Tools\EASEUS Data Recovery Wizard**
- A web browser with an **Internet** connection, if **EaseUS Data Recovery wizard is not installed**
- Administrative privileges to run tools

Lab Duration

Time: 20 Minutes

Overview of Recovering Deleted Files and Deleted Partitions

EaseUS Data Recovery Wizard solves all **data loss problems** – from recovering files emptied from the **Recycle Bin** or lost due to a **software crash**, a **formatted** or **damaged hard drive**, **virus attack**, **lost partition**, and other unknown reasons in Windows. It recovers data from formatted partitions with the **original file names** and **storage paths**.

Delete files by pressing the Delete key or press Shift+Delete to permanently delete the files without sending them to the Recycle Bin.

Lab Tasks

1. Launch the **Windows 10** machine as a Local Administrator.
2. Before running the tool, go to **This PC → Local Disk D: and check** for any available files

Note: The Local drive letter may vary in your lab environment according to the assigned drive letter.

TASK 1

Deleting Files

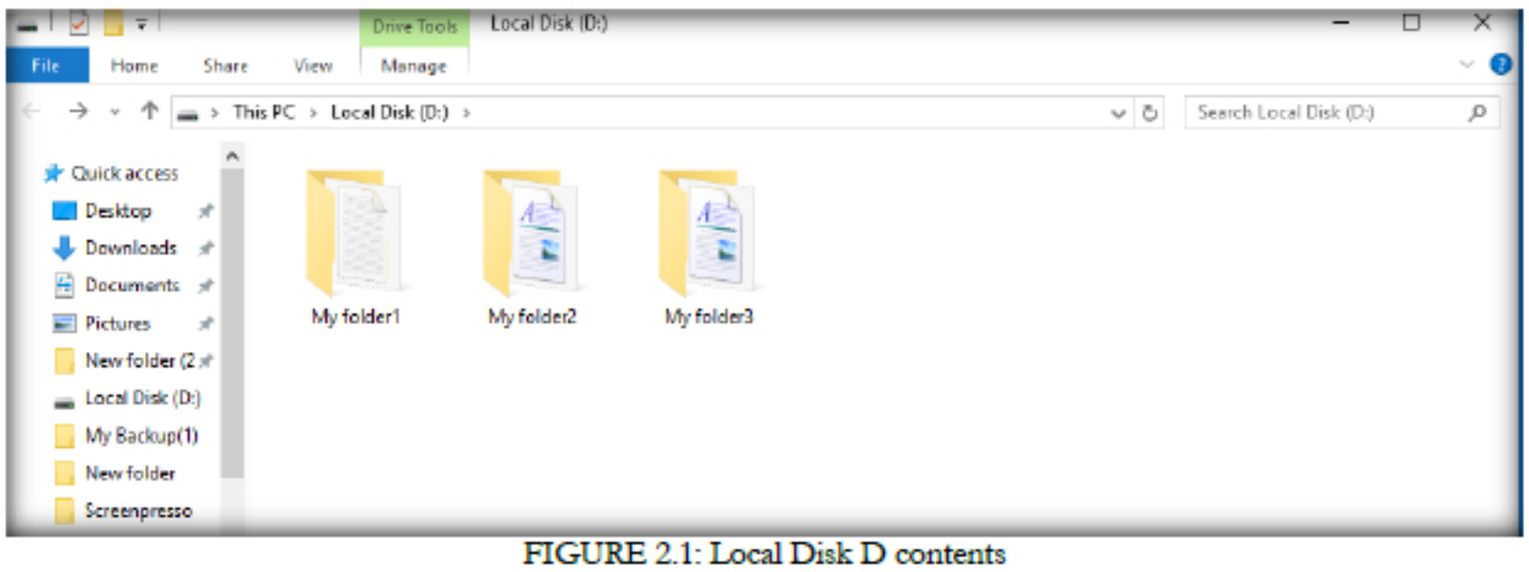

FIGURE 2.1: Local Disk D contents

3. Delete the **My folder3** folder to recover it with EASEUS.

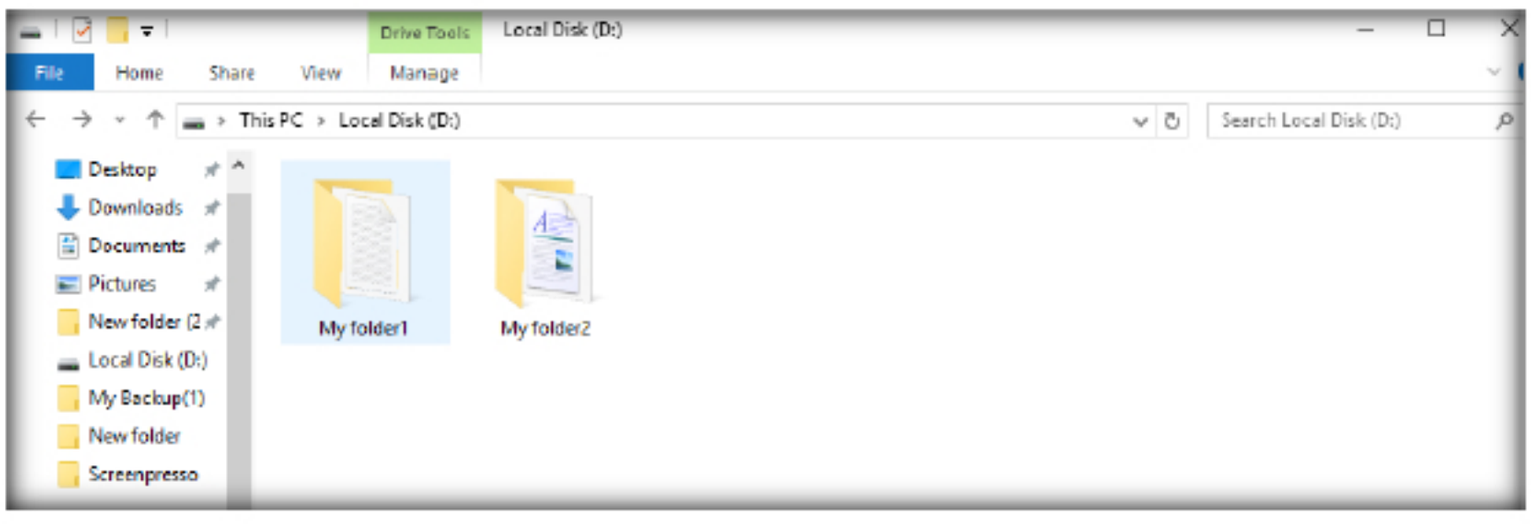

FIGURE 2.2: My folder3 deleted

EaseUS Data Recovery Wizard supports FAT12/FAT16/FAT32/NTFS/NTFS5 file systems.

4. Navigate to **Z:\CND-Tools\CND Module 13 Data Backup and Recovery\Windows Data Recovery Tools\EASEUS Data Recovery Wizard** and double-click drw_free.exe, if the User Account Control pop-up appears, then click **Yes**.

5. The Select Setup Language pop-up appears, choose the language from the drop-down, then click **OK** and follow the wizard installation steps.

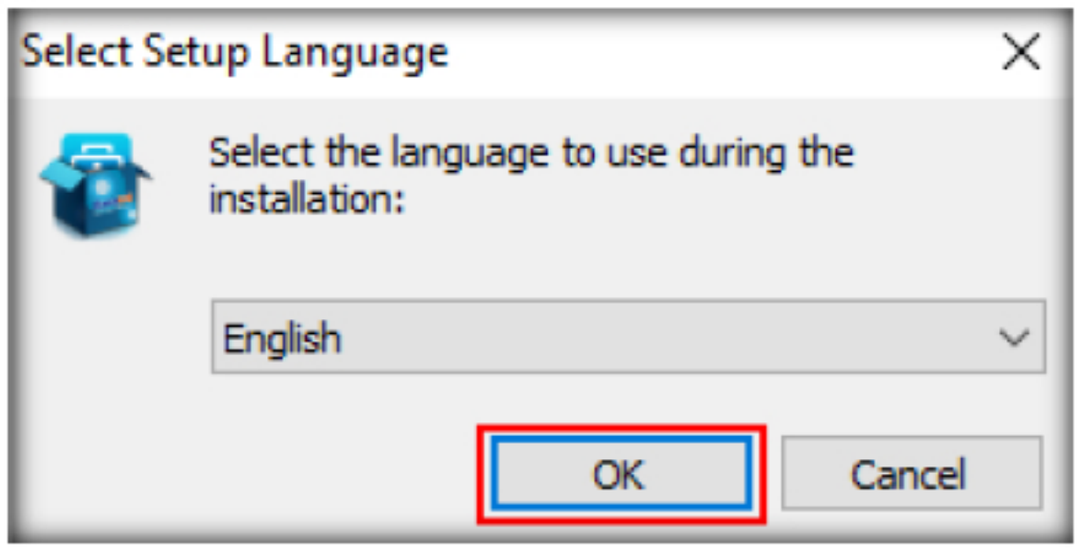

FIGURE 2.3: Select Setup Language

6. After the installation completes, make sure that the **Launch EaseUS Data Recovery Wizard** option is checked, so it will launch automatically then click **Finish**.

EASEUS Data Recovery Wizard features include:

- Recover deleted or lost files emptied from the Recycle Bin
- File recovery after accidental format, even Windows reinstallation
- Disk recovery after a hard disk crash
- Get back files after a partitioning error
- Get data back from RAW hard drives
- Recover office documents, photos, images, videos, music, email, etc.
- Recover from hard drive, USB drive, memory card, memory stick, camera card, zip, floppy disk, or other

7. Alternatively, you can also launch by double-clicking the short-cut icon on the desktop.

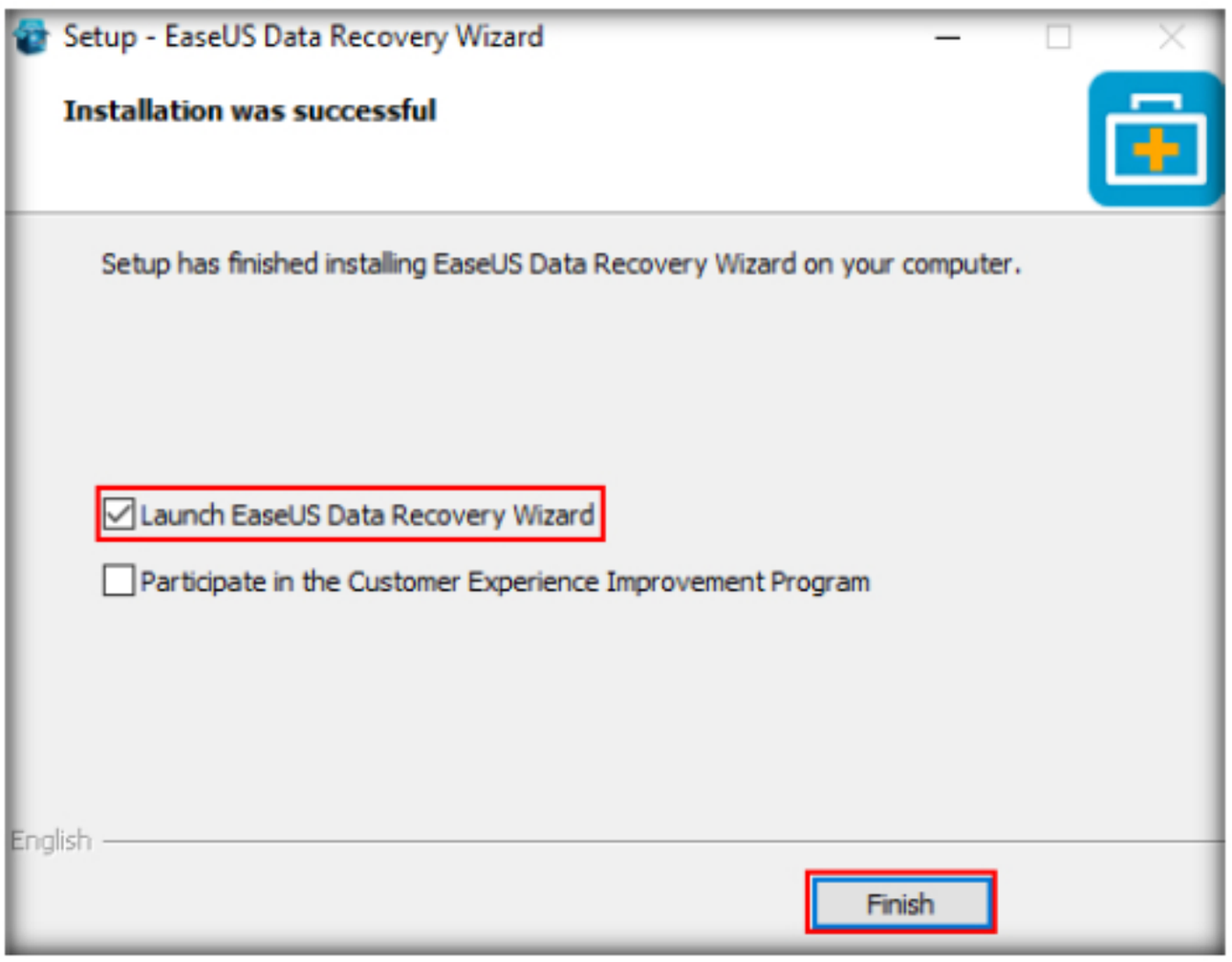

FIGURE 2.4: Launch EaseUS Data Recovery Wizard

8. The **EaseUS Data Recovery Wizard Free** window appears as shown in the screenshot.

TASK 2

Recover Deleted Files

9. By default, the **Select types of lost files** option is selected, click **All File Types**, then click **Next**.

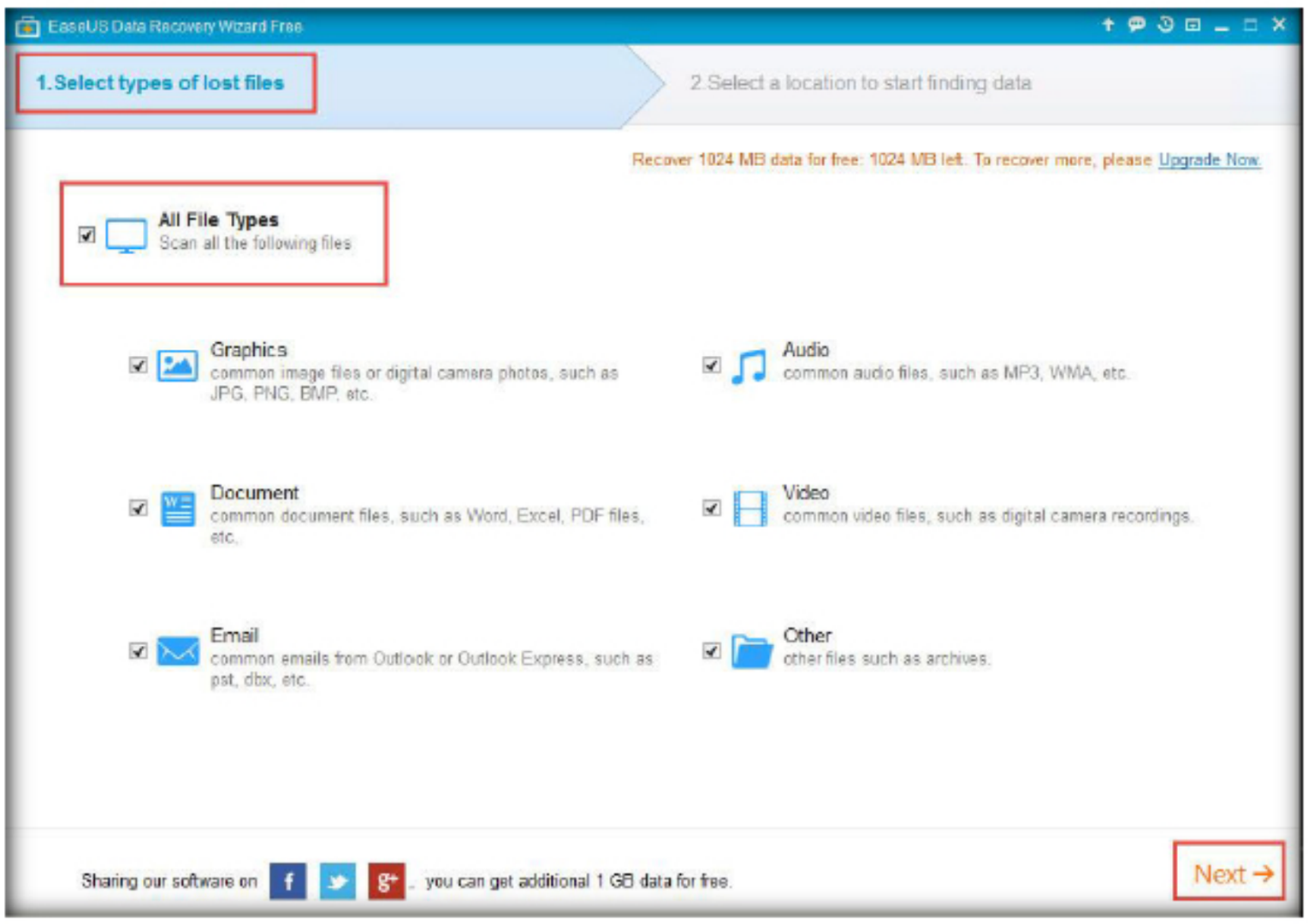

FIGURE 2.5: Choosing File Types of lost files

10. Choose the option to **Select a location to start finding data**. Select the partition from which you have to recover the files then click **Scan**.

The Partition Recovery Module is for recovering data from a deleted, lost, or damaged partition.

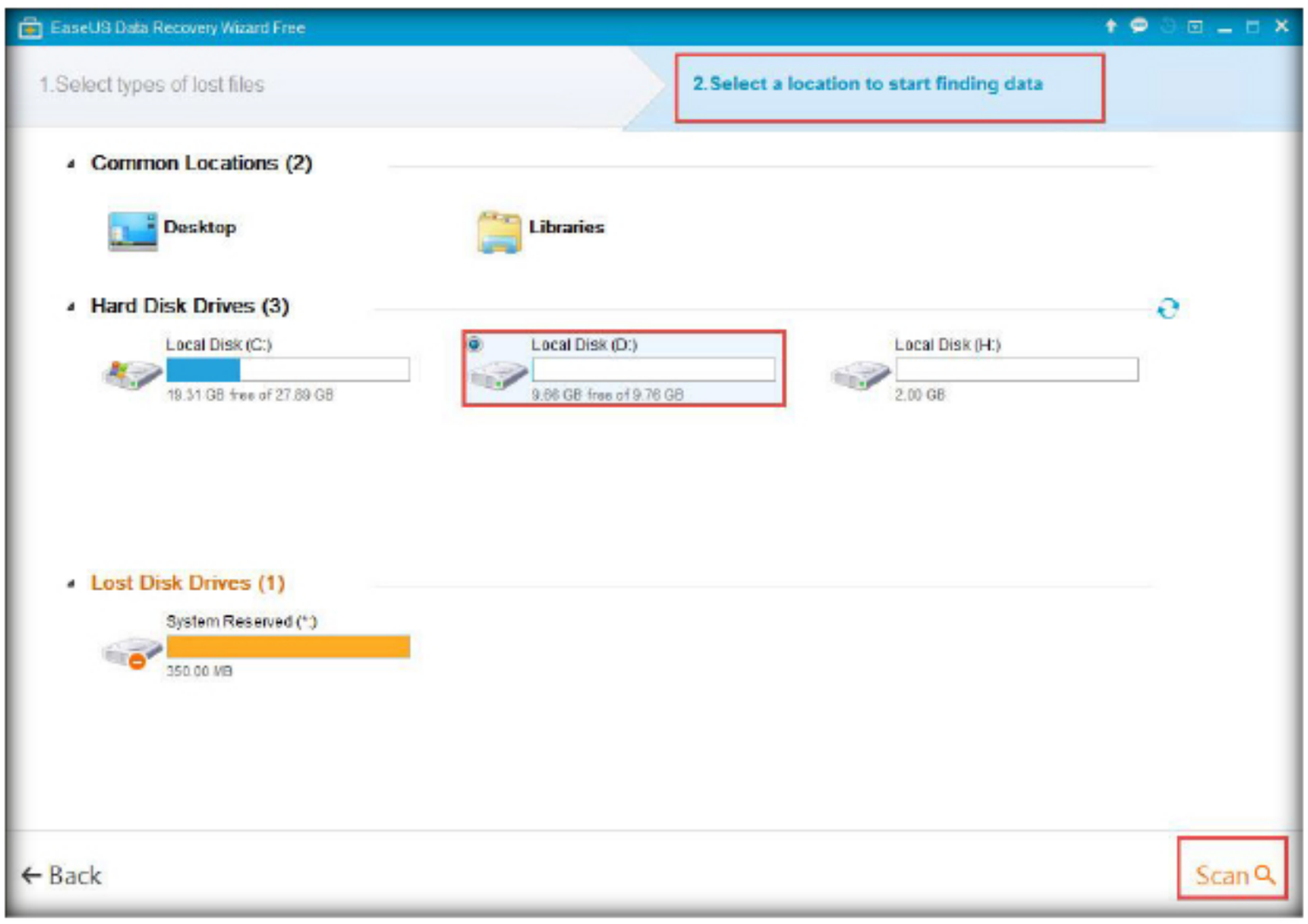

FIGURE 2.6: Choosing Location of Deleted Files

11. Select the files and click **Recover**.

Note: If the lost files cannot be found, perform a **Deep Scan** to find more files.

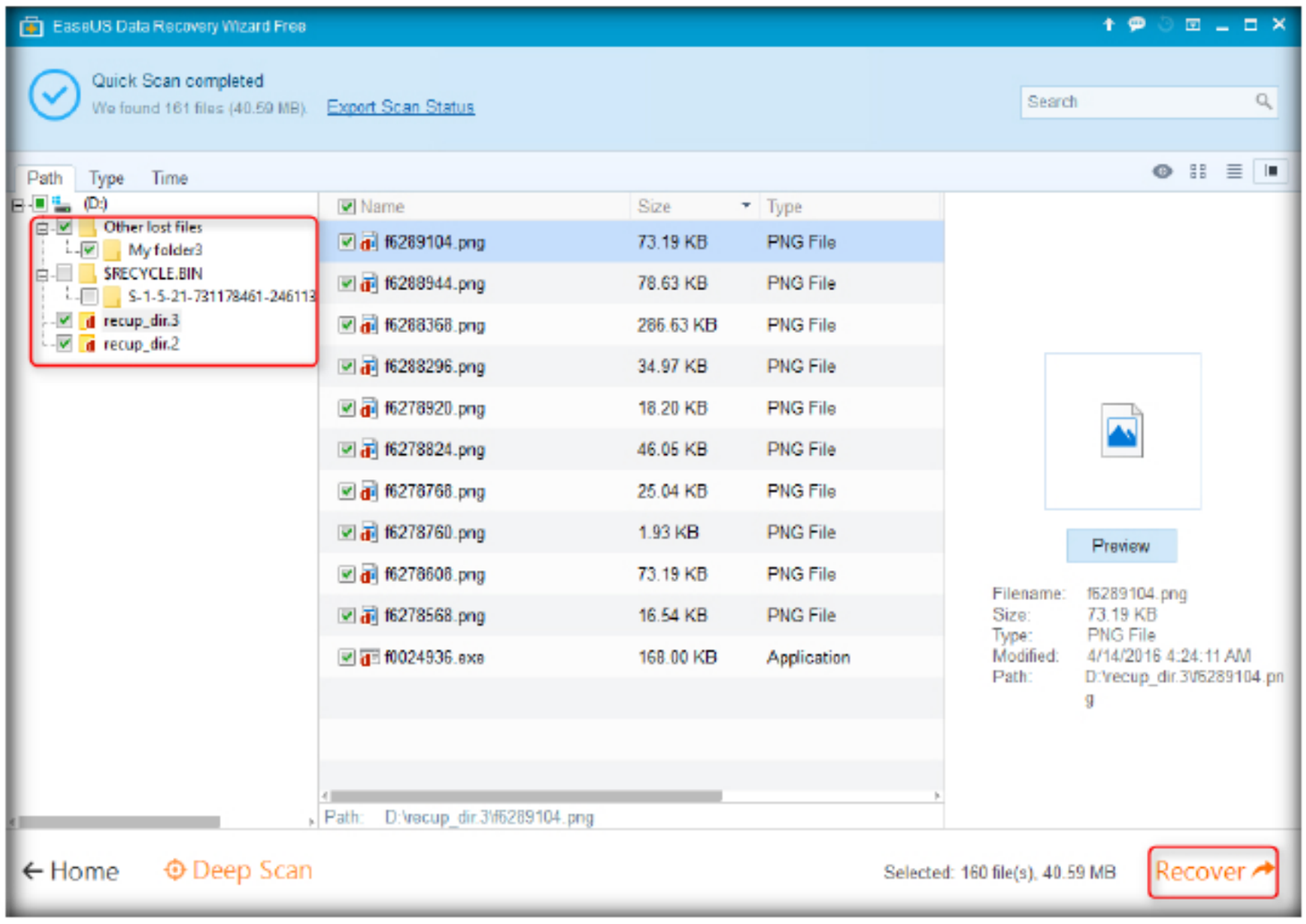

FIGURE 2.7: Recovered Files

If the lost files are not found or are corrupted in the Deleted File Recovery mode, then go back and select the Complete Recovery mode.

12. Select a location to save the recovered files then click **Save**.

FIGURE 2.8: Choosing Destination Locations to Save the Recovered Files

Note: It is not recommended to save the recovered files to the same drive because this can reduce the chance of a successful recovery.

13. After the save is complete, a report will be displayed on the screen, click **OK**.

EaseUS Data Recovery Wizard also recovers lost data due to software crashes, virus infections, and other unknown reasons.

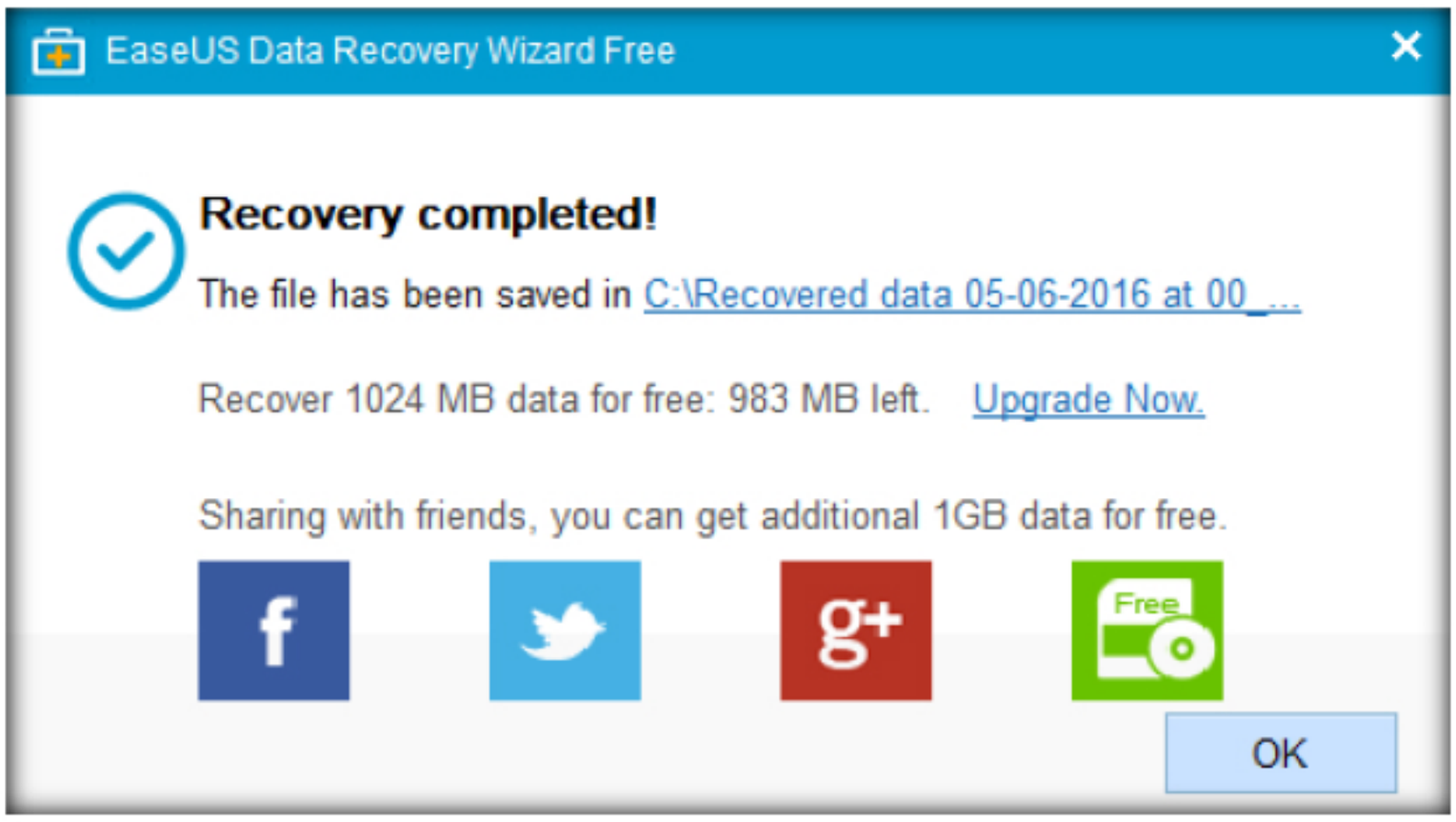

FIGURE 2.9: Recovery Completed Message

14. Navigate to the save location for the recovered files. (This location usually appears automatically once recovery is done with folder **NTFS)**

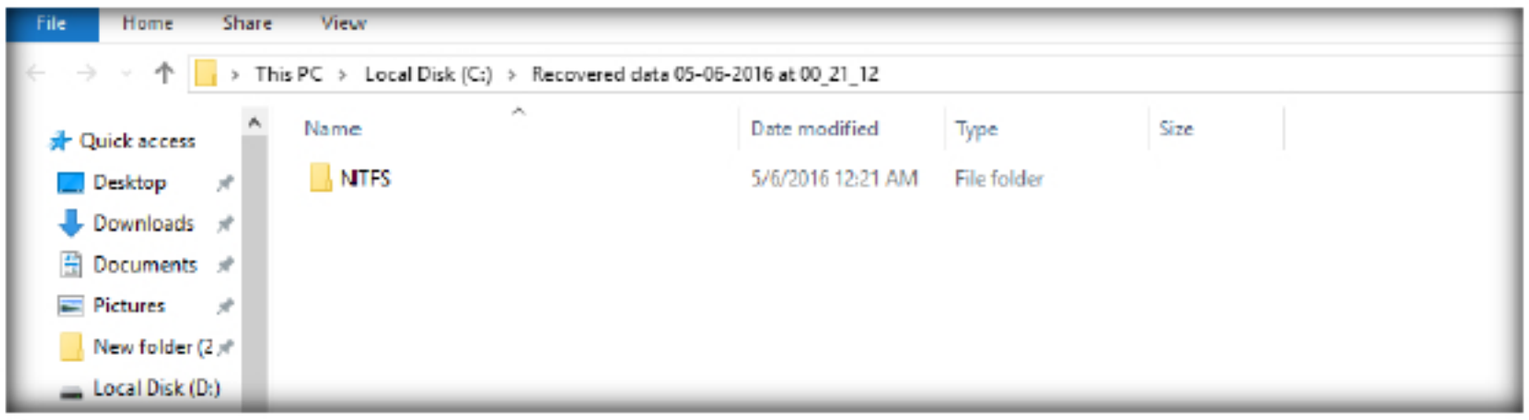

FIGURE 2.10: Recovered Files Location

EASEUS Data Recovery Wizard is compatible with Windows 2000/XP/2003/Vista/8/7/10.

15. You can find the My Folder 3 in the Other Lost Files under the NTFS folder.

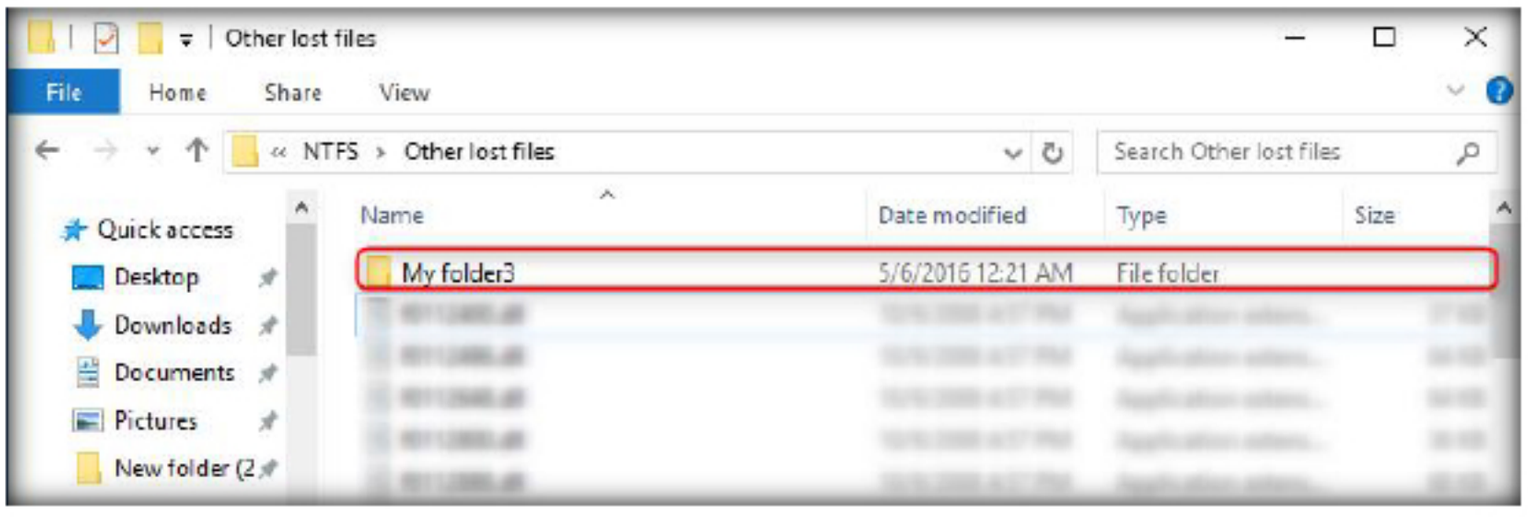

FIGURE 2.11: Deleted Folder/File Recovered

Lab Analysis

Analyze and document the results related to the lab exercise.

PLEASE TALK TO YOUR INSTRUCTOR IF YOU HAVE QUESTIONS RELATED TO THIS LAB.

Internet Connection Required	
☐ Yes	☑ No
Platform Supported	
☑ Classroom	☑ iLabs

Lab 3

File Recovery Using Quick Recovery Tool

The Quick Recovery Tool recovers files from inaccessible, lost, missing, damaged, or formatted drives. It is fast, compact, light weighted, easy to use and has a great success rate in recovering the files

ICON KEY

- Valuable information
- Test your knowledge
- Web exercise
- Workbook review

Lab Scenario

Sometimes, you are not able to recover data using a specific tool. In such cases, you need to go for another data recovery tool. As a **Network Administrator**, you should be aware of several different data recovery tools that may help you recover your data.

Lab Objectives

The objective of this lab is to demonstrate the use of the Quick Recovery tool for data recovery.

Lab Environment

To carry out the lab, you need:

- A computer running **Windows 10**
- Administrative privileges to install and run the tool
- The Quick Recovery tool, located at **Z:\CND-Tools\CND Module 13 Data Backup and Recovery\Windows Data Recovery Tools\Quick Recovery**
- You can also download the latest version of the **Quick Recovery** tool from **http://www.recoveryourdata.com**
- If you decided to download latest version of the tool the screenshots may vary

Lab Duration

Time: 20 Minutes

Overview of Quick Recovery Software

The Quick Recovery tool is non-destructive data recovery software for Windows, designed to restore lost, deleted, and formatted data from FAT and NTFS file systems. It saves the restored files to a new file. It is read-only, meaning the program will never attempt to write to the drive you are about to recover. The software's unique Guided File Excavation Technology (GFETCh) helps in locating files and folders lost behind overwritten partitions.

Lab Tasks

TASK 1

Deleting Files

1. Before running this tool, go to **This PC → Local Disk** (here, **D:** drive) and delete a few folders. In this lab we are going to delete the CND-1 and CND-2 folders for demonstration purpose

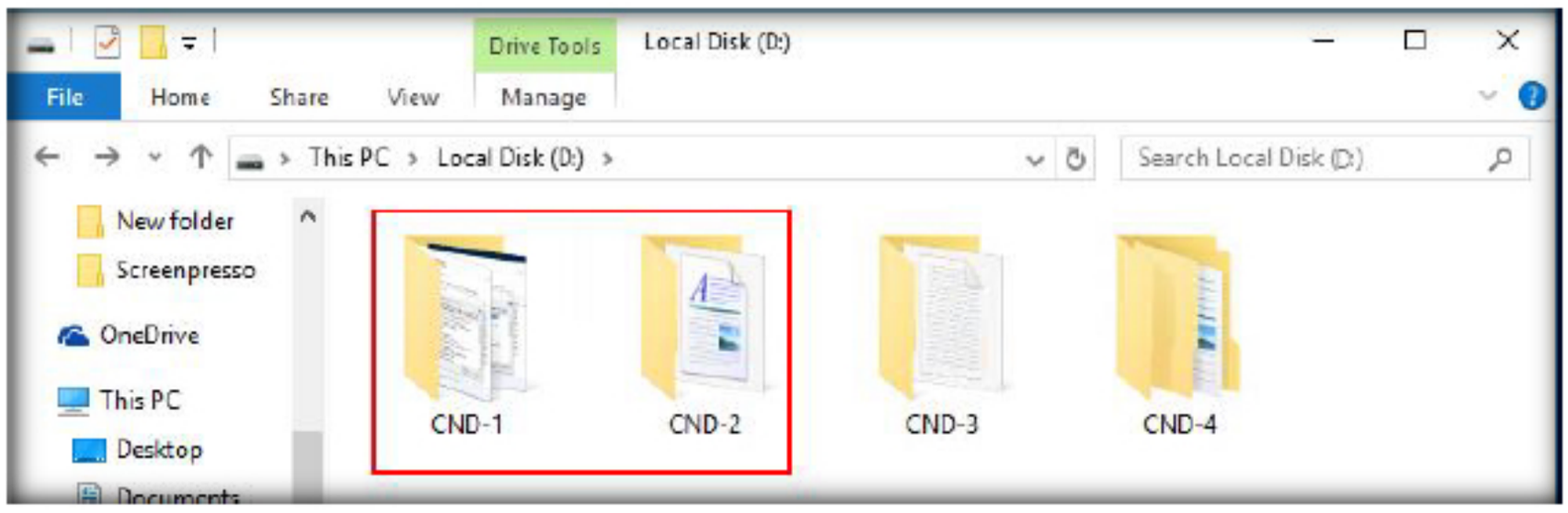

FIGURE 3.1: List of Available Files

2. The screenshot below shows the remaining contents after the deletion of the CND-1 and CND-2 folders.

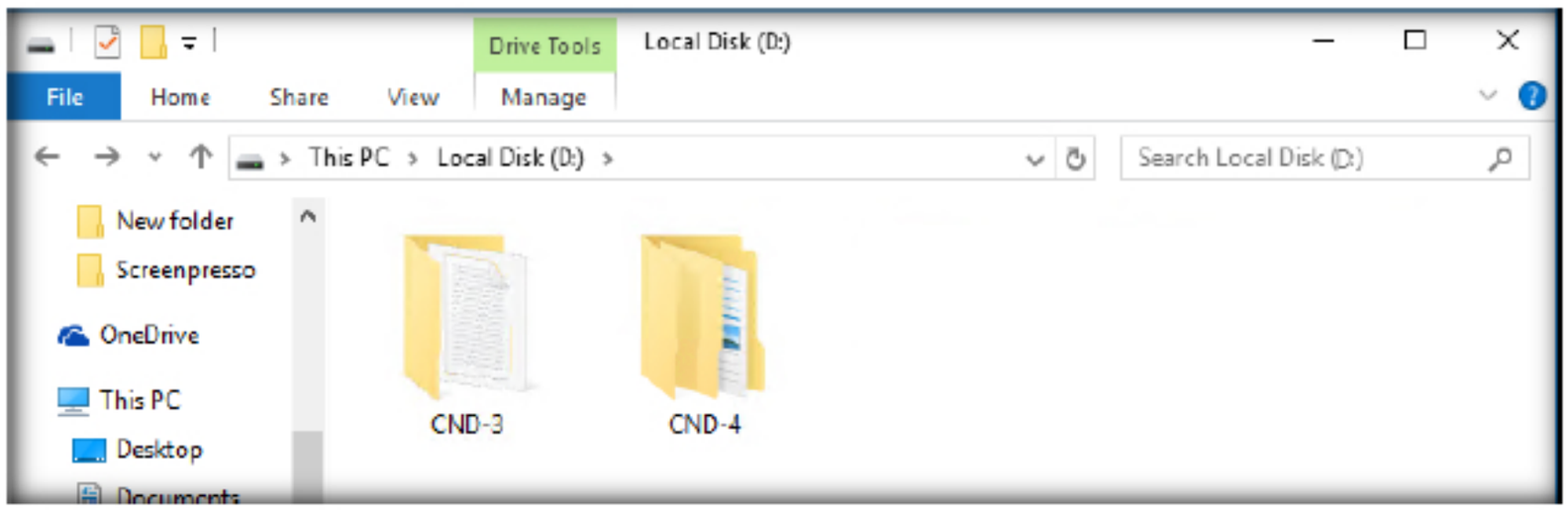

FIGURE 3.2: Rest of the files after deletion

Delete the files by pressing the Delete key or press Shift+Delete to permanently delete the files without going directly to the Recycle Bin.

3. Navigate to **Z:\CND-Tools\CND Module 13 Data Backup and Recovery\Windows Data Recovery Tools\Quick Recovery**

4. Double-click the **Windows-FAT-NTFS-Partition-Demo.exe** to launch the setup, then follow the wizard-driven installation instructions.
5. The **Quick Recovery** window displays, as shown in the screenshot.

The Quick Recovery Tool for Windows is easy to use as data recovery software to restore files and folders accidently lost for MS Office.

FIGURE 3.3: Quick Recovery main window

TASK 2

Recover Deleted Files

6. Click the option for recovery from **Select the Recovery Mode** option, here we are choosing the **Quick Recovery** option as shown in the screenshot to recover the deleted folders/files.

FIGURE 3.4: Quick Recovery Disk Selection window

7. Now select the **Partition** to search for deleted files then click **Next**.

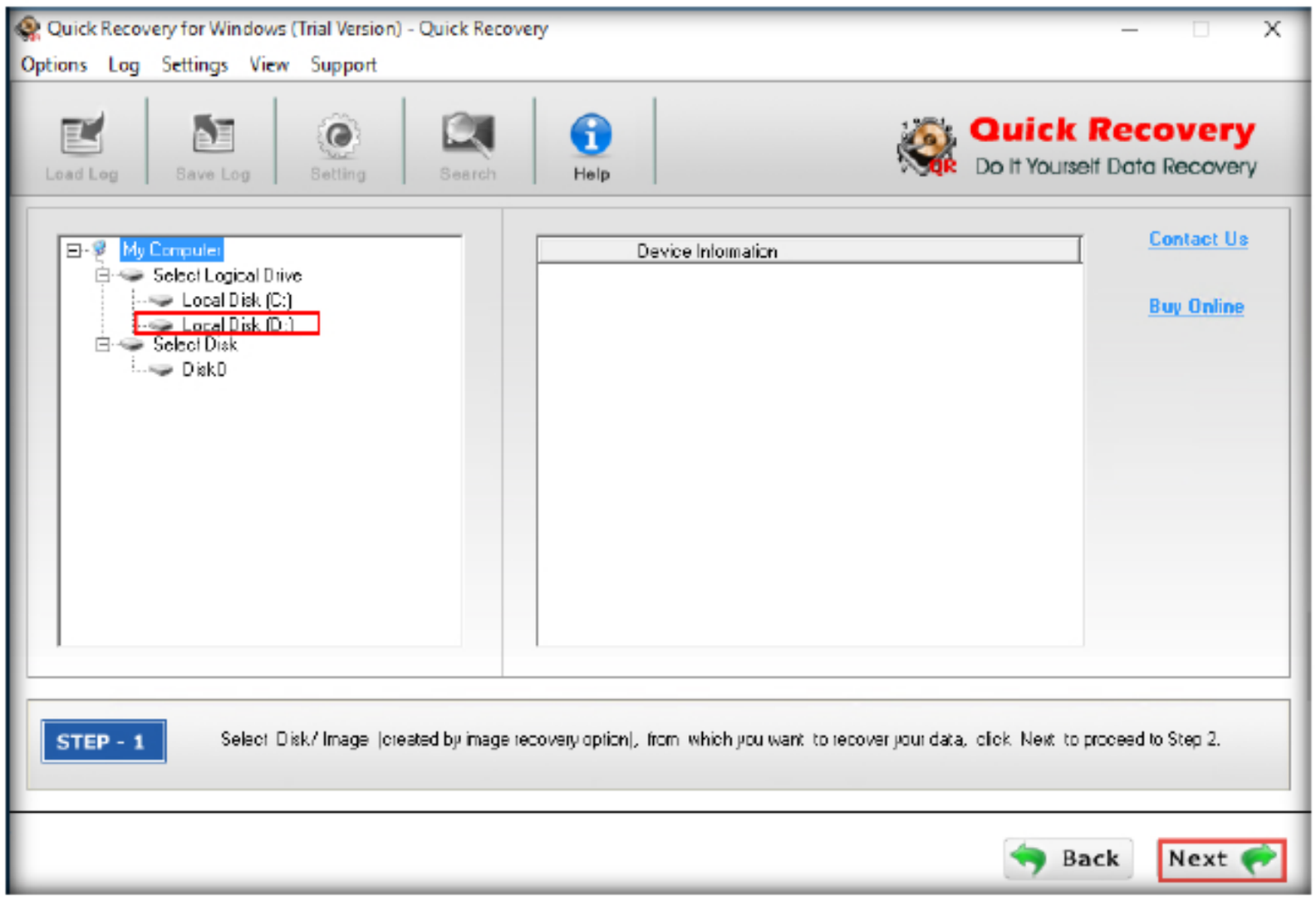

FIGURE 3.5: Quick Recovery Selected Disk Contents window

Quick Recovery supports FAT12, FAT16, FAT32, exFAT, NTFS, and NTFS5 file systems.

8. The **Step-2** wizard appears as shown in the screenshot, in this step you need to select the partition in the left pane, then click **Next**.

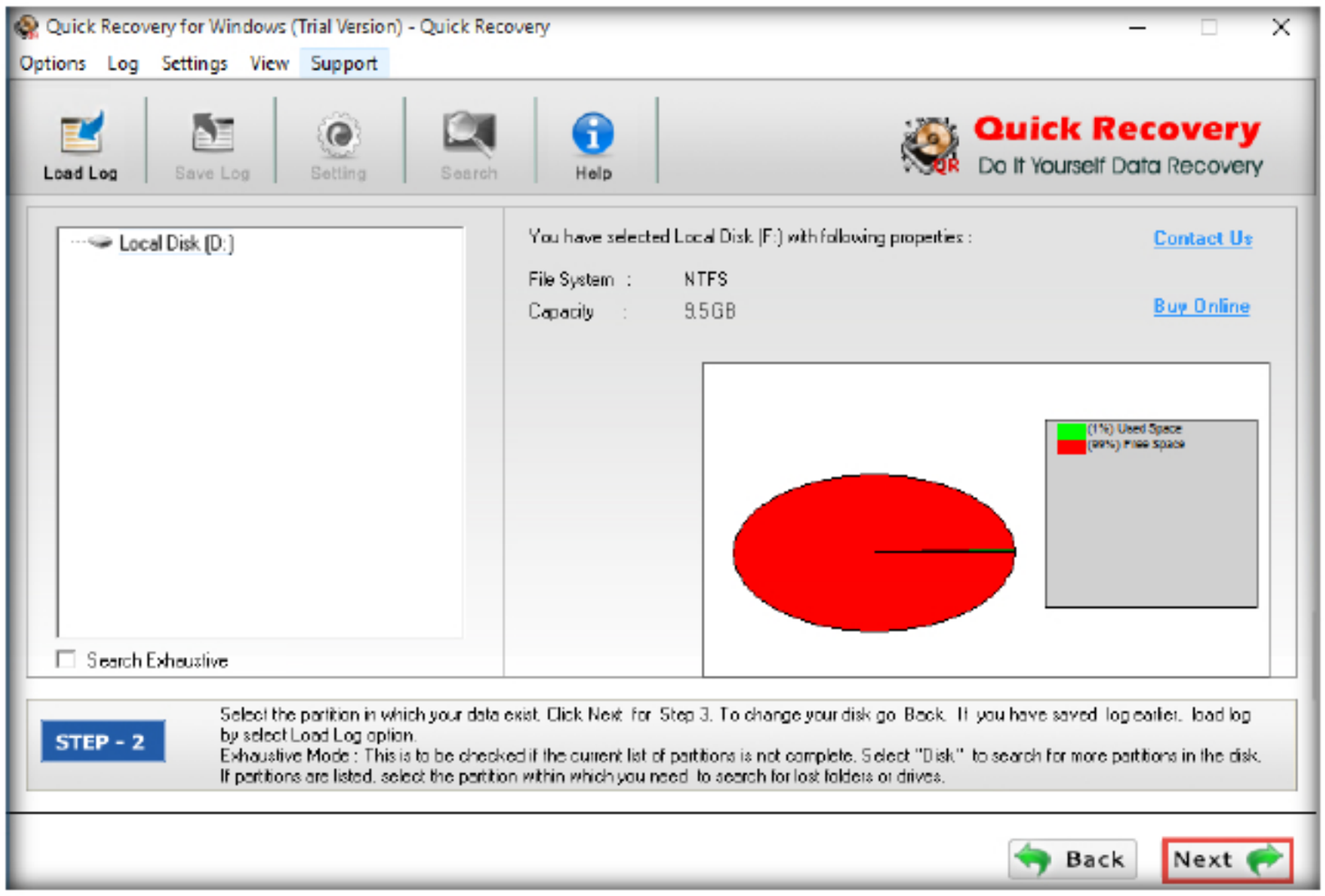

FIGURE 3.6: Quick Recovery tool recovery process window

9. In the window that pops up, click **OK**.

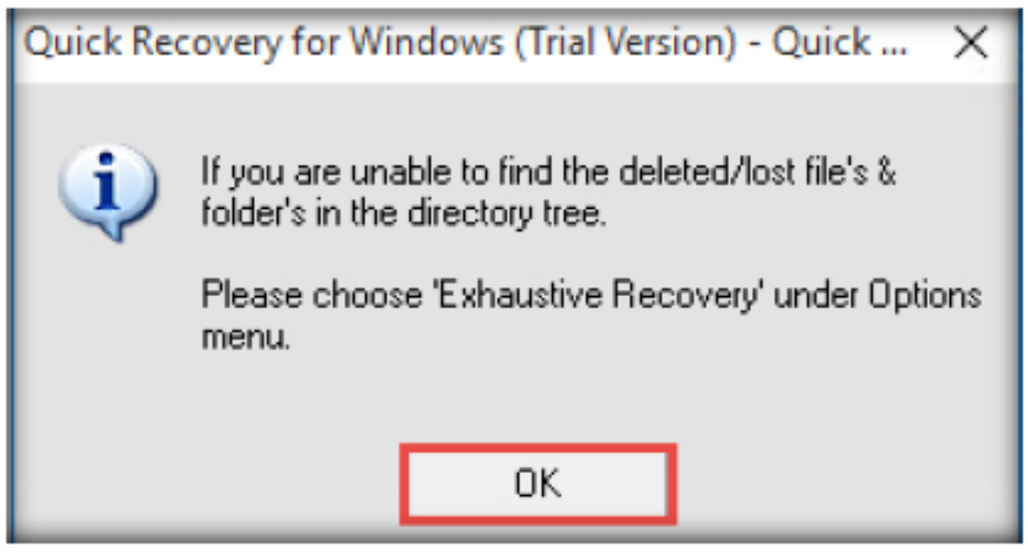

FIGURE 3.7: Quick Recovery information pop-up window

The Quick Recovery tool's key features include:

- Recovers files deleted from the Recycle Bin
- Recycle Bin recovery for both FAT and NTFS
- Recovers data after formatting and creating different file systems
- File recovery from missing or lost folders
- Versatile recovery filter that assists in recovering required files only
- Recovers files deleted from the Windows command prompt
- Supports devices such as hard disk drives, USB drives, memory cards, etc.
- Saves a Recovery log during recovery analysis

10. Select the restored files then click the **Save** button to save them in the desired path.

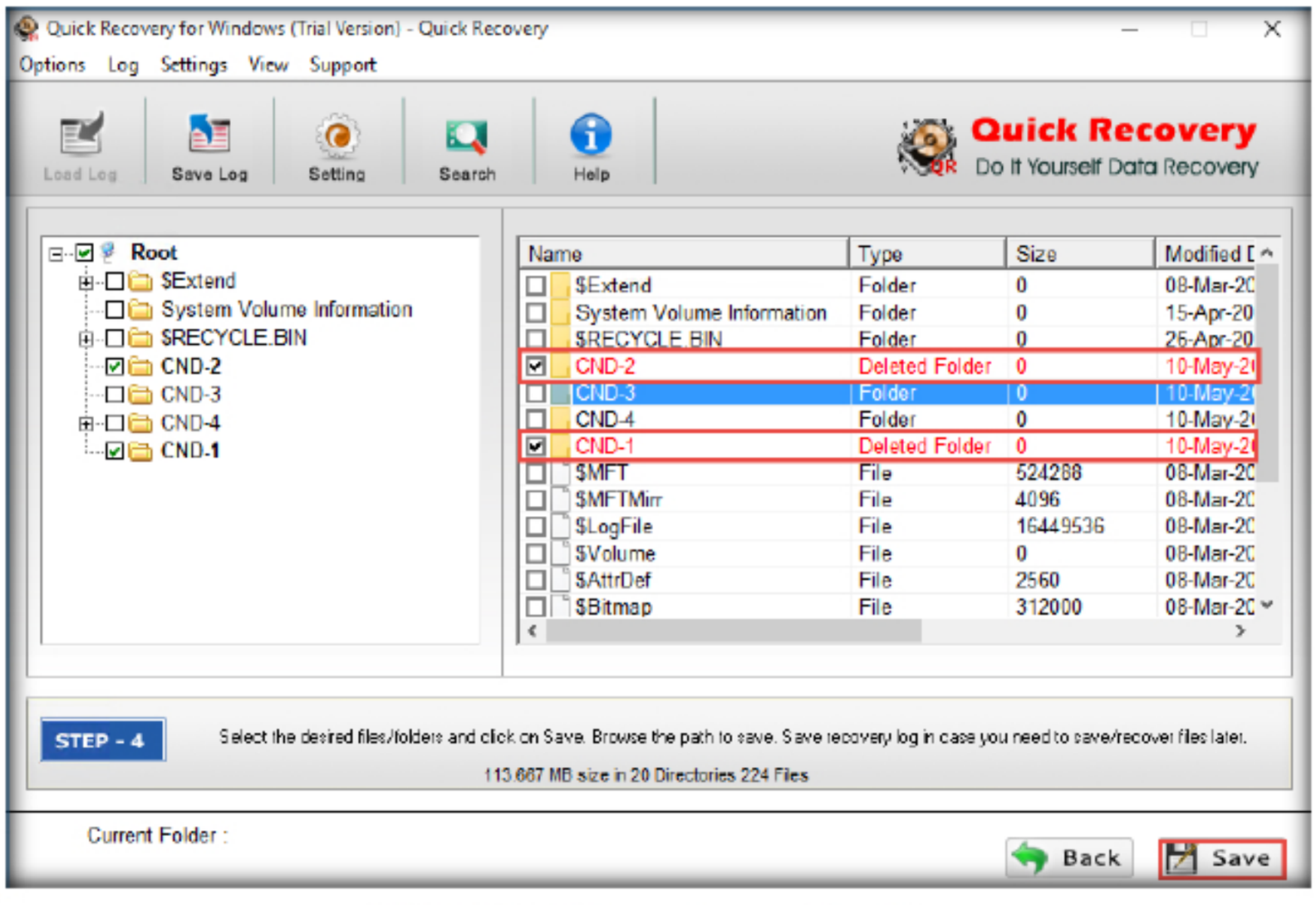

FIGURE 3.8: Quick Recovery Recovered Files window

Note: The trial version of this software will only display the restored files. You need to purchase the **license key** from the vendor's site in order to **save the restored files**.

Lab Analysis

Analyze and document the results related to the lab exercise.

PLEASE TALK TO YOUR INSTRUCTOR IF YOU HAVE QUESTIONS RELATED TO THIS LAB.

Internet Connection Required	
☐ Yes	☑ No
Platform Supported	
☑ Classroom	☑ iLabs

Lab 4

Partition Recovery Using MiniTool Power Data Recovery Tool

MiniTool Power Data Recovery recovers deleted data from the Windows Recycle Bin, restores lost data even if the partition is formatted or deleted and restores data from a corrupted hard drive, virus infection, unexpected system shutdown, or software failure.

ICON KEY

- Valuable information
- Test your knowledge
- Web exercise
- Workbook review

Lab Scenario

In some cases, there may be a situation where the entire partition is deleted accidentally and needs to be recovered. Some tools do not support a partition recovery feature. As a **Network Administrator**, you should be aware of the different tools which is capable of recovering deleted partitions.

Lab Objectives

The objective of this lab is to demonstrate how to **recover deleted partitions** using the **MiniTool Power Data Recovery** tool.

Lab Environment

To carry out the lab, you need:

- A computer running **Windows 10**
- Administrative privileges to install and run the tool
- The Power Data Recovery tool, located at **Z:\CND-Tools\CND Module 13 Data Backup and Recovery\Windows Data Recovery Tools\MiniTool Power Data Recovery**
- You can also download the latest version of the **Power Data Recovery** tool from **http://www.powerdatarecovery.com**
- If you decide to download the latest version, screenshots shown in the lab might differ

Lab Duration

Time: 20 Minutes

Overview of MiniTool Power Data Recovery

MiniTool Power Data Recovery is data recovery software for home and business users. It can recover deleted data from the Windows Recycle Bin, restore lost data even if the partition is formatted or deleted and restore data from a corrupted hard drive, virus infection, unexpected system shutdown, or software failure. It supports IDE, SATA, SCSI, USB hard disk, memory card, USB flash drive, CD/DVD, Blu-Ray disk, and iPod. MiniTool Power Data Recovery contains five data recovery modules: **Undelete Recovery**, **Damaged Partition Recovery**, **Lost Partition Recovery**, **Digital Media Recovery**, and **CD & DVD Recovery**. Each data recovery module focuses on a different data loss scenario.

Lab Tasks

TASK 1

Deleting a Partition

1. Before running the tool, go to **Computer** and check for the available partitions. In this lab, Windows Explorer is showing two partitions, **Local Disk (C:)**, and **Local Disk (D:)** .

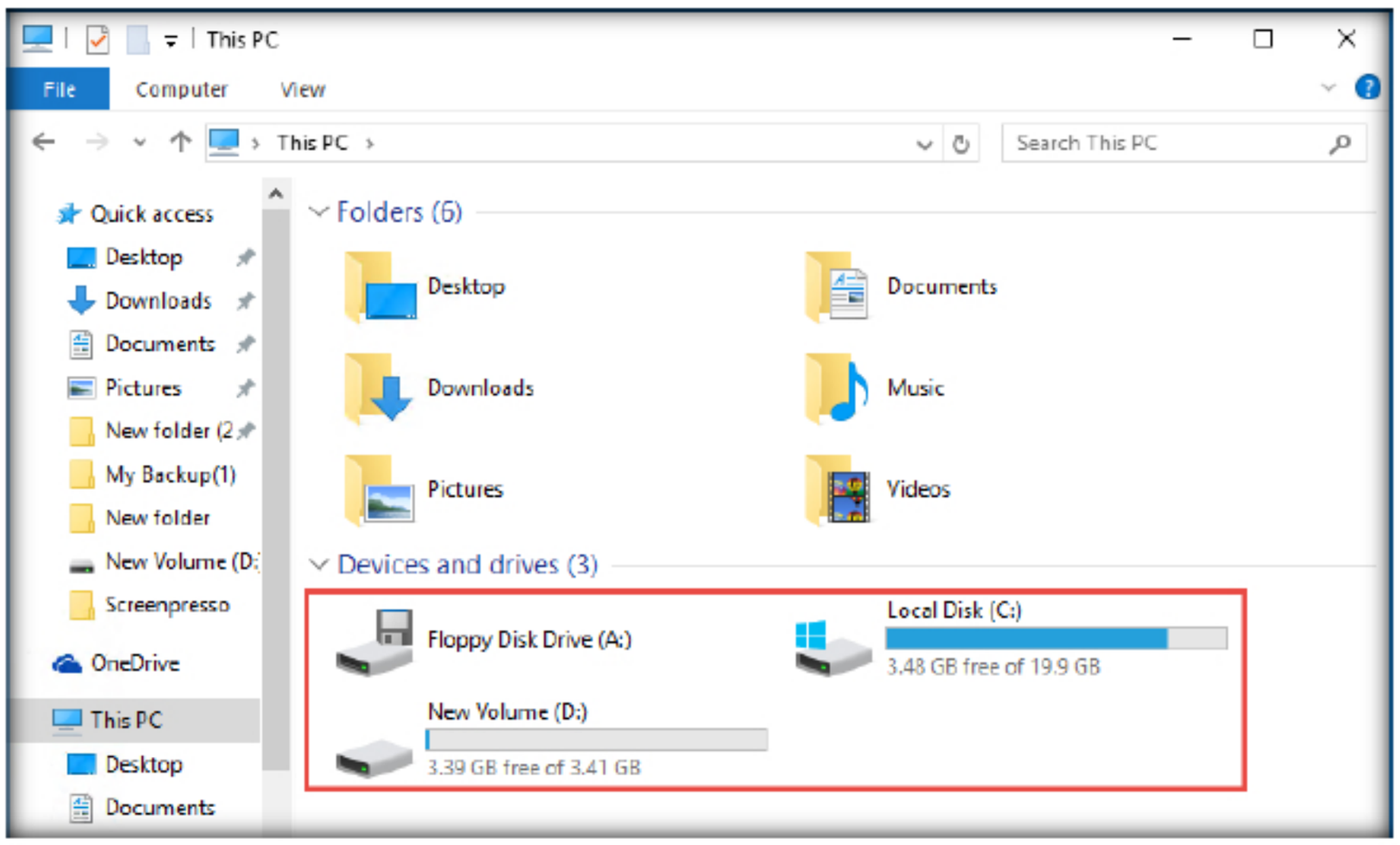

FIGURE 4.1: Windows Explorer showing Hard Disk Drives

2. Right click on the **Start** icon and choose **Disk Management** from the context menu as shown in the screenshot.

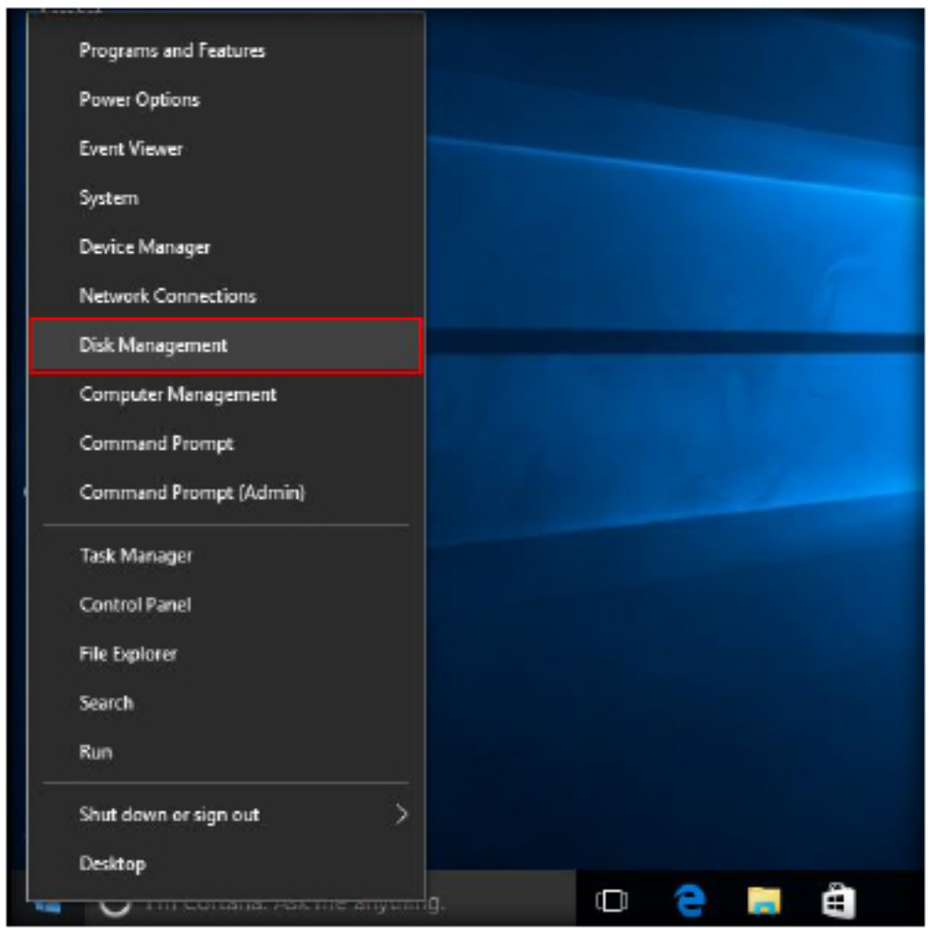

FIGURE 4.2: Navigating to Disk Management

3. The **Disk Management** window appears. Right click on the **New Volume (D:)** and select **Delete Volume** from the context menu.
4. Once you click on Delete Volume, the Delete simple volume pop-up appears, click **Yes**.

Note: Delete simple volume warning message appears, click **Yes** to continue. The drive letters may vary in your lab environment.

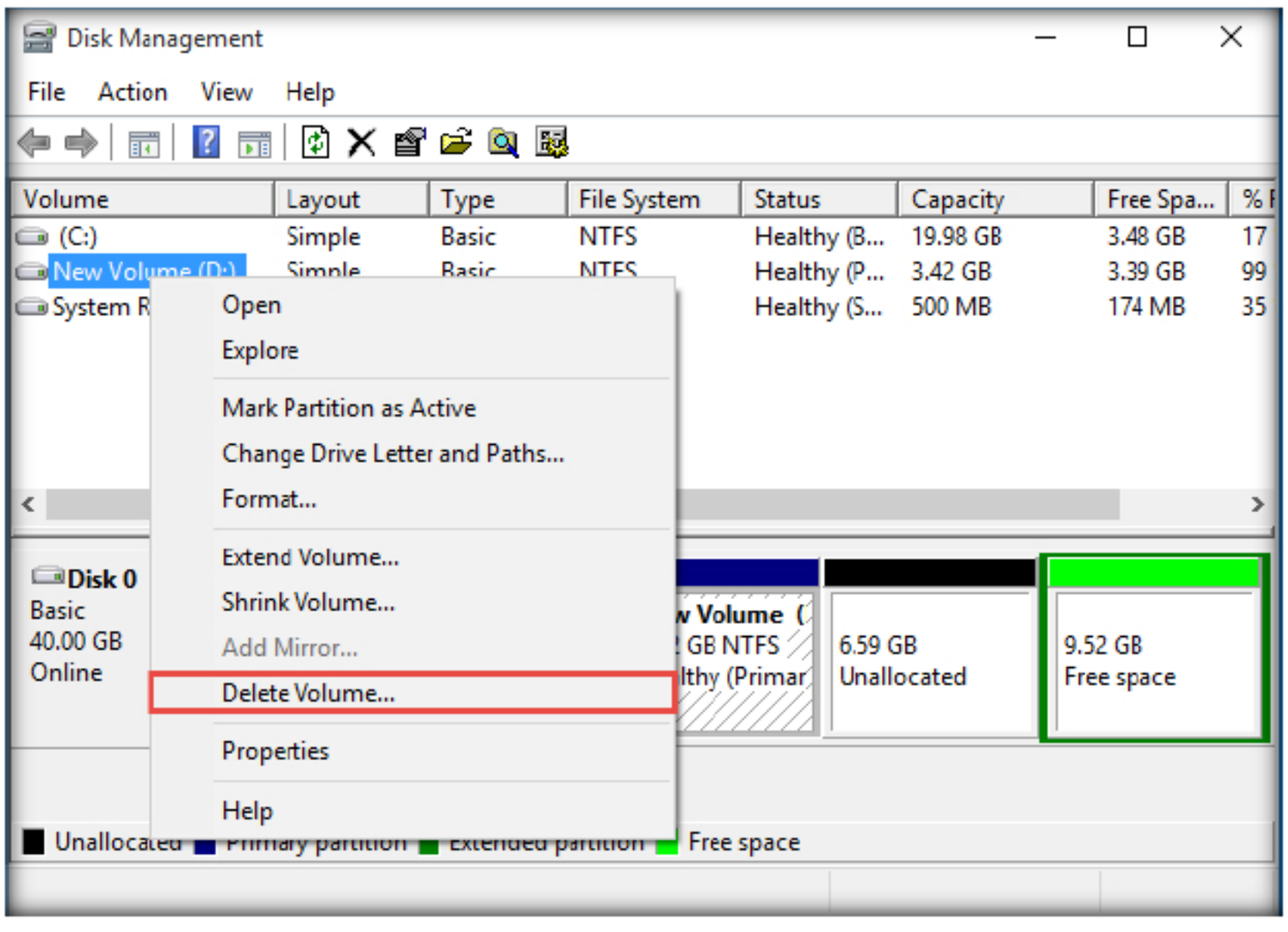

FIGURE 4.3: Deleting the Volume

5. Navigate to **Z:\CND-Tools\CND Module 13 Data Backup and Recovery\Windows Data Recovery Tools\MiniTool Power Data Recovery** and double-click the **pdr7free.exe**, if the User Account Control pop-up appears click **Yes** then follow the wizard driven installation steps.

   Note: Never install this tool on Operating system installed drive from which you need to recover the data.

FIGURE 4.4: Installing MiniTool Power Data Recovery

6. After completion of the installation make sure the Launch MiniTool Power Data Recovery option is checked, then click **Finish**. The main window of MiniTool Power Data Recovery appears once it is launched, as shown in the screenshot.

Power Data Recovery supports Windows 7, Vista, XP, 2000 Professional, Server 2008, 2003, and 2000 Server families.

FIGURE 4.5: Main Window of MiniTool Power Data Recovery

7. Choose the **Lost Partition Recovery** module.

FIGURE 4.6: Choosing Lost Partition Recovery module

Power Data Recovery free version software supports 32/64 bit Windows Operating Systems, including Windows XP, Vista, and Windows 7. The free version allows recovery of 1 GB of data only.

TASK 2

Recover Deleted Partition

Supports NTFS compressed and encrypted files.

8. Select the **Device** you would like to recover and click the **Full Scan** button.

Note: In some cases, the tool might not be able to recognize disk partitions. Instead, it will just show the complete hard disk in the device selection pane. If that is the case:

a. Select the **recovered partition** and then click the **Show Files** button, this displays the message **Preparing RAW file list** is in process.

b. On completion of the process, the list of files present in the **recovered partition** is displayed.

c. **Check** the **restored partition** and then click the **Save Files** button.

d. **Browse for the path** to save the restored partition and then click **OK**.

e. A Window pops up showing the information. Click **OK**.

f. Now the partition is restored

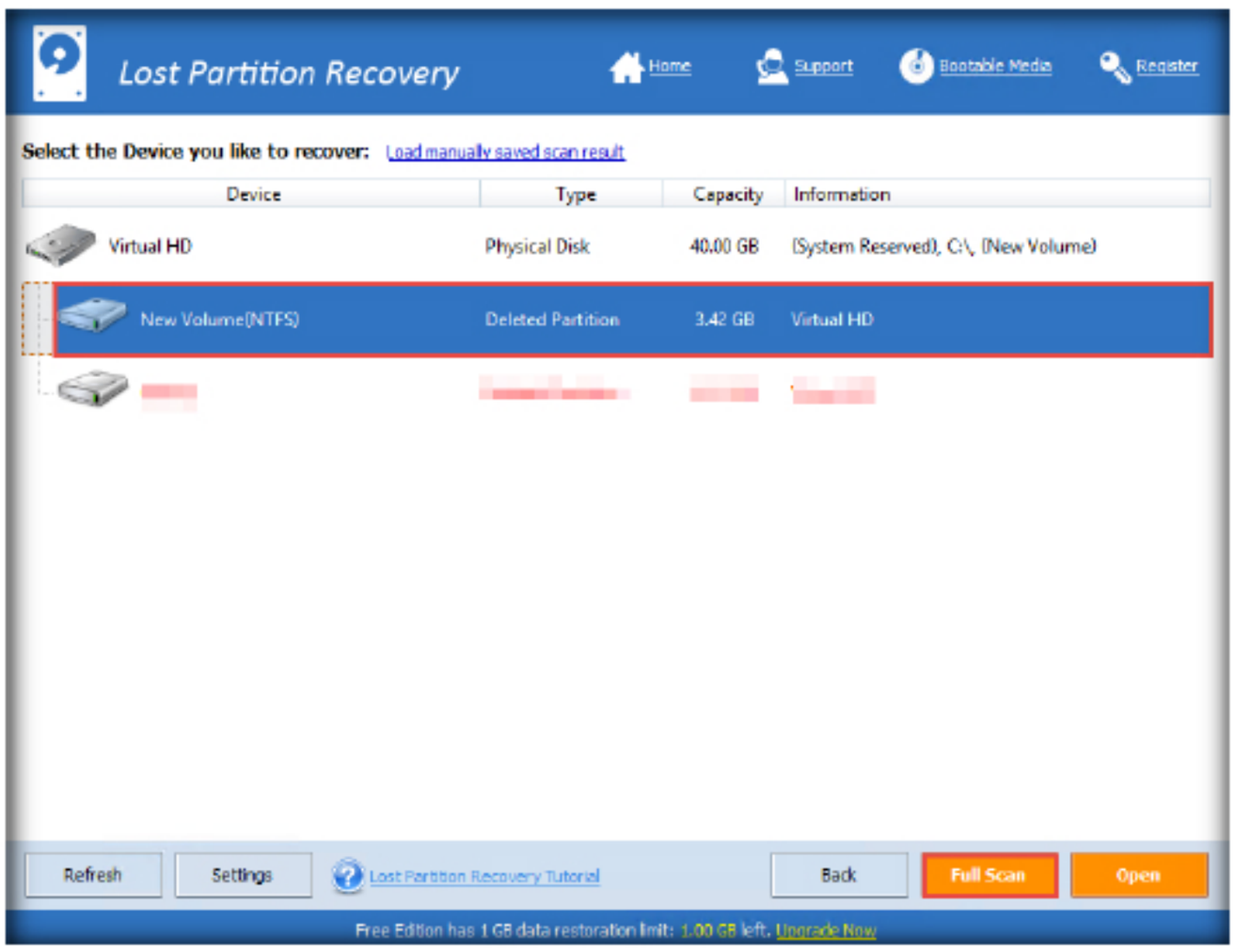

FIGURE 4.7: Starting the recovery process of Deleted Partition

9. On completion of the recovery process, the list of files present in the lost partition is displayed. Select all files and click **OK**

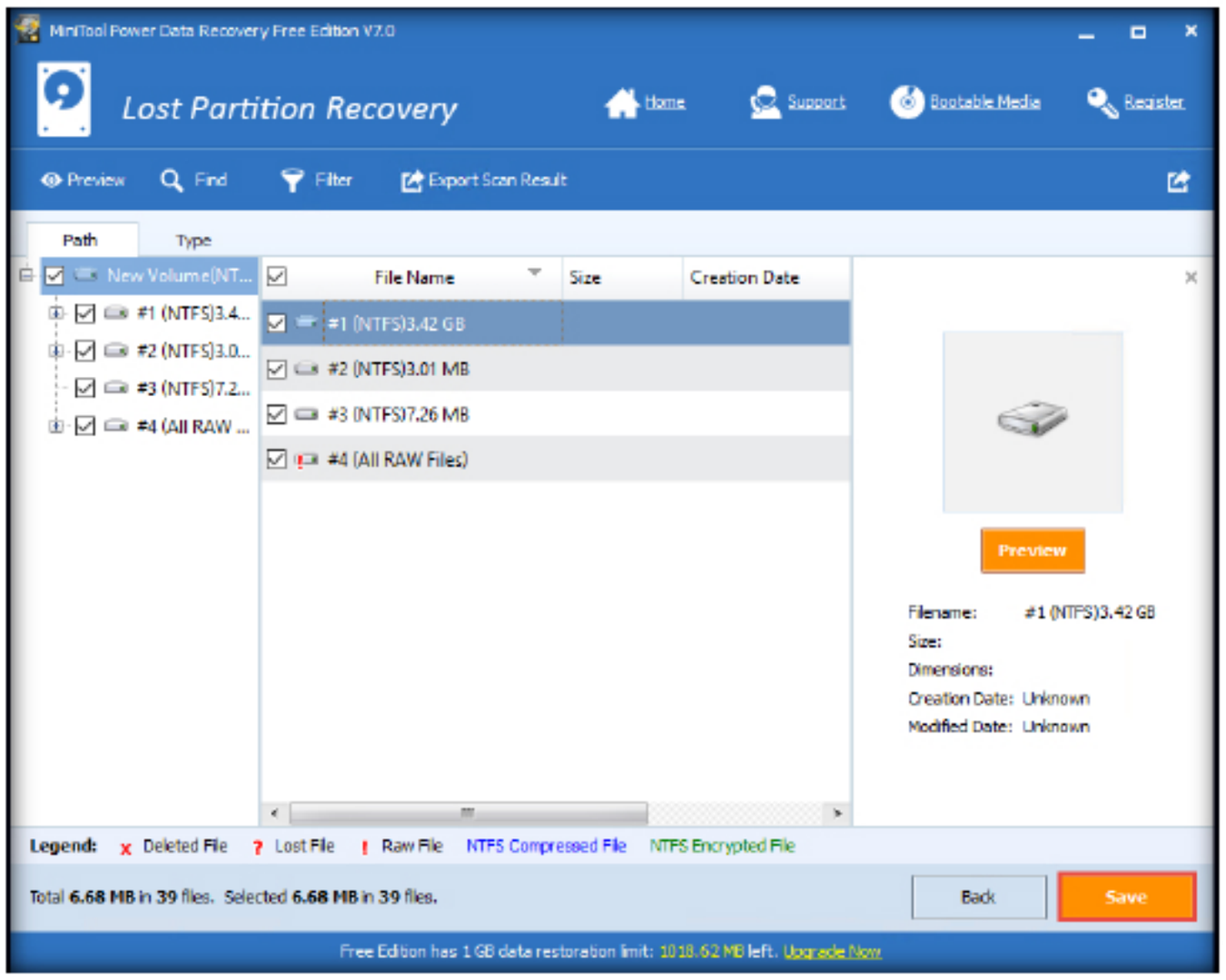

FIGURE 4.8: Saving all the files of restored partition

10. The **Select a directory to save** file window appears. Select any location then click **OK**.

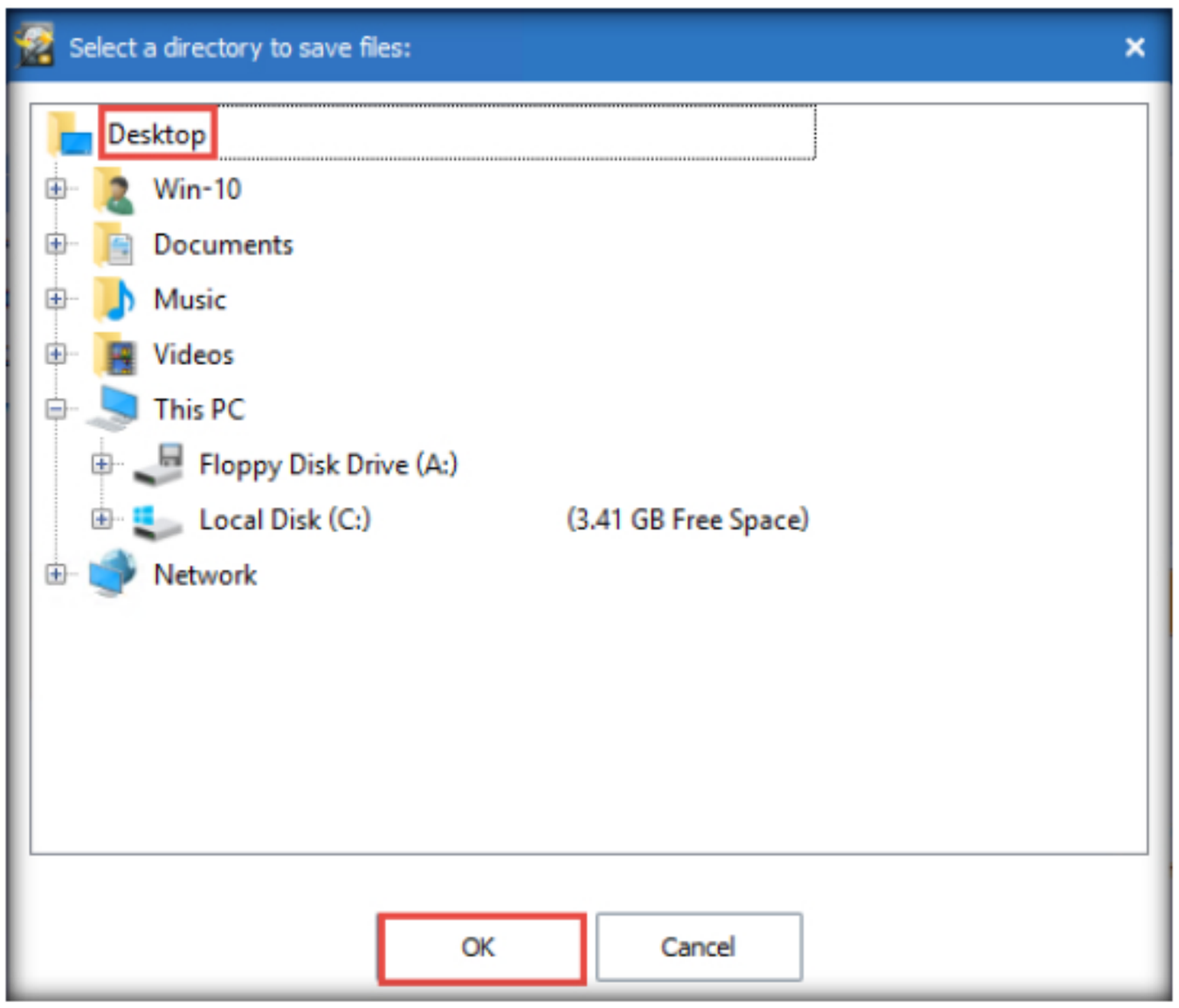

FIGURE 4.9: Choosing Destination to Restore

Power Data Recovery tool key features include:

- Recovers deleted files and folders
- Recovers data from damaged partitions
- Recovers data from inaccessible hard drives
- Recovers data after re-partitioning
- Recovers data from a crashed hard drive
- Recovers data after an MBR corruption
- Recovers data after reinstalling Windows
- Recovers data from Windows Dynamic Disk Volume
- Recovers photos from a memory card
- Recovers video and music from iPod
- Recovers data from quick formatted, un-finalized, or scratched CD/DVD disks

11. You can see the lost files of the deleted partition restored on the selected location (Desktop).

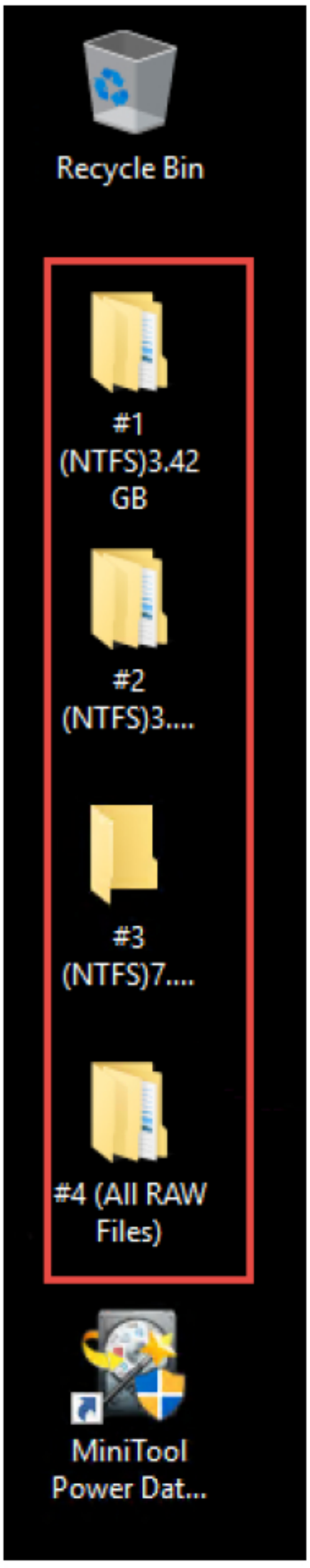

FIGURE 4.10: Data restored

Supports file systems: FAT 12/16/32 (used by hard disks, disks, Smartmedia™, Compact Flash™, Memory Stick and other), NTFS (used by hard drives), ISO 9660, Joliet, and UDF (used by CD/DVD disks).

Note: Screenshots may vary in your lab environment according to the contents of the file stored in the deleted partition.

Lab Analysis

Analyze and document the results related to the lab exercise. Give your opinion on deleted partitions recovering deleted partitions with the Power Data Recovery tool.

PLEASE TALK TO YOUR INSTRUCTOR IF YOU HAVE QUESTIONS RELATED TO THIS LAB.

Questions

Internet Connection Required	
☐ Yes	☑ No
Platform Supported	
☑ Classroom	☑ iLabs