O&O DiskImage

Inhaltsverzeichnis

Introduction

Welcome to O&O DiskImage Premium, your comprehensive data security solution. In today's digital world, data loss due to hardware failure, virus attacks or software errors is not uncommon. Backing up your valuable data is therefore essential to protect yourself from such unpredictable events.

O&O DiskImage Premium allows you to create complete backups of your PC, files and drives. These backups serve as vital insurance for your data, allowing you to react quickly and efficiently in the event of a system failure. It is important that backups are performed regularly and stored in a safe place to ensure the best protection against data loss. Use the advanced features of O&O DiskImage to store your data safely and access it at any time.

Install and uninstall O&O DiskImage Premium

Installation

Download the setup file from the official O&O Software website and follow the installation instructions.

Uninstallation

Open your computer's Control Panel, navigate to "Uninstall programs" and select O&O DiskImage to uninstall.

System requirements and supported media

Minimum system requirements

- **Operating system:**

- Microsoft Windows 10 (64-bit) or Windows 11 (64-bit)
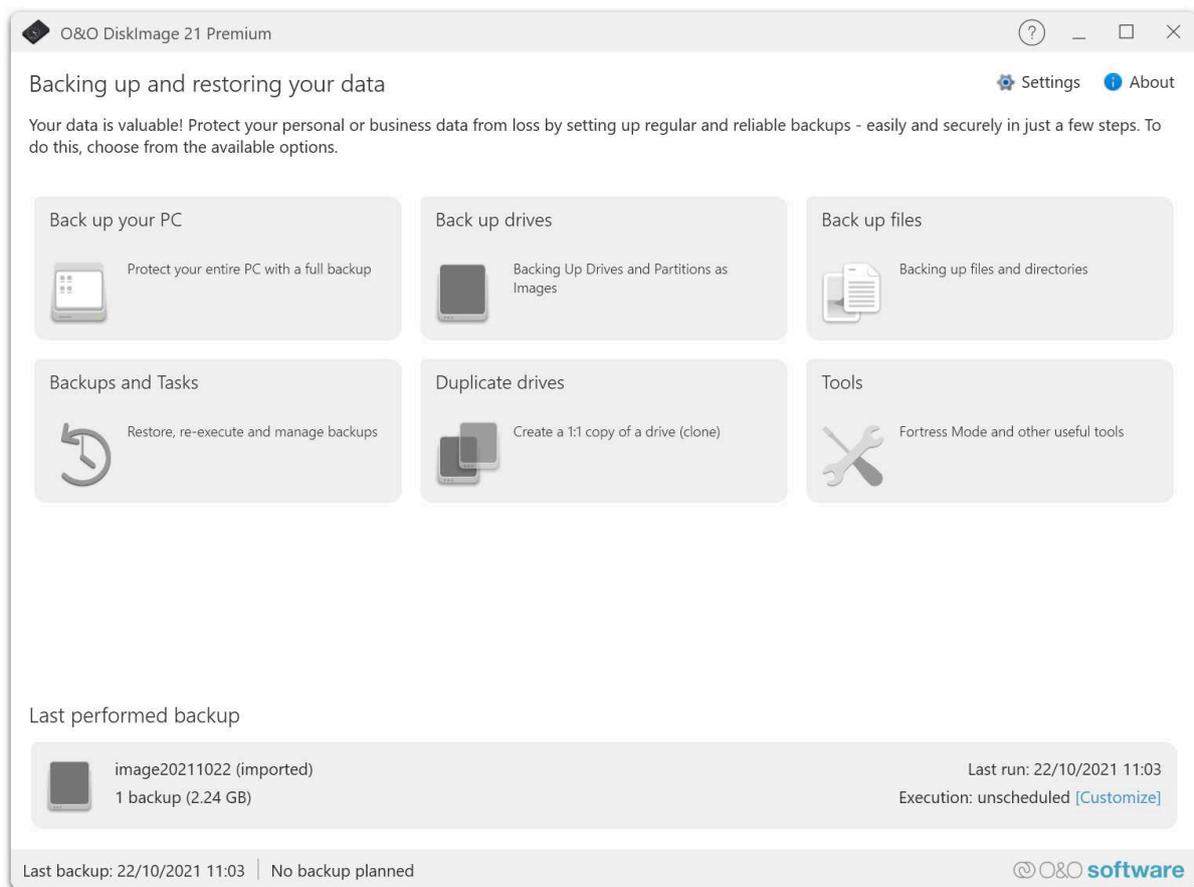
Figure 1: O&O DiskImage Premium

- **Memory:**

- At least 4 GB RAM

- **Hard disk space:**

- At least 500 MB of free space for installation (additional space depending on the amount of data to be backed up)

Supported file systems

O&O DiskImage Premium supports a wide range of file systems to ensure comprehensive and flexible backup and recovery of your data. These include in particular:

- **NTFS:** The standard file system of modern Windows operating systems. NTFS offers advanced features such as access rights, file compression, encryption and journaling, resulting in high data security and stability.

- **FAT16 and FAT32:** These file systems are often used on older systems as well as on removable storage devices (e.g. USB sticks and memory cards). They offer broad compatibility, but have limitations in terms of maximum file size and partition size.

- **exFAT:** Designed for use on high-capacity storage media, exFAT combines the advantages of FAT (high compatibility) with the ability to manage very large files, making it ideal for modern external drives and flash storage.

- **ReFS (Resilient File System):** A more modern file system that is used primarily in server environments and critical applications. ReFS is optimized for high data security and error resistance and offers advanced data integrity functions.

By supporting these common file systems, O&O DiskImage Premium ensures that almost all storage formats used under Windows can be reliably backed up and restored.

Supported storage media

O&O DiskImage Premium supports a wide range of storage media, so you can back up your data flexibly and reliably - regardless of whether you prefer local or external storage solutions.

- **Internal hard drives (HDD/SSD):** All common internal hard drives, including mechanical HDDs and modern SSDs, can be used as targets for backups. The software also supports RAID configurations.

- **External hard drives:** External drives connected via USB, eSATA or Thunderbolt offer an additional layer of security and allow backups to be physically separated from internal system drives.

- **USB sticks and memory cards:** Smaller storage media such as USB sticks or SD/microSD cards are also supported, which is particularly advantageous for portable backup solutions and fast data transfers.

- **Network storage (NAS):** Use central, network-based storage solutions. O&O DiskImage Premium enables backups to NAS devices via common protocols such as SMB/CIFS in order to implement a server-based backup strategy.

- **Virtual hard drives:** The software supports virtual hard drive formats such as VHD and VHDX, so you can integrate and manage backups directly even in virtualized environments.

This comprehensive support for various storage media allows you to select the optimal backup solution for your individual needs and ensure that your data is always stored in a safe place.

O&O DiskImage Premium

In the main view of O&O DiskImage you will find the following functions:

Back up your PC

"**Back up your PC**" offers a quick and easy way to perform a complete backup of your computer, including all data and system settings. This function is ideal for new users of O&O DiskImage or for those who have not yet backed up their system. This quick backup backs up your entire computer, including the system partition. Compression is done using LZNT1, which ensures efficient memory usage, and the "Back up used sectors" backup method is used to back up only the parts of the hard drive that are actually in use.
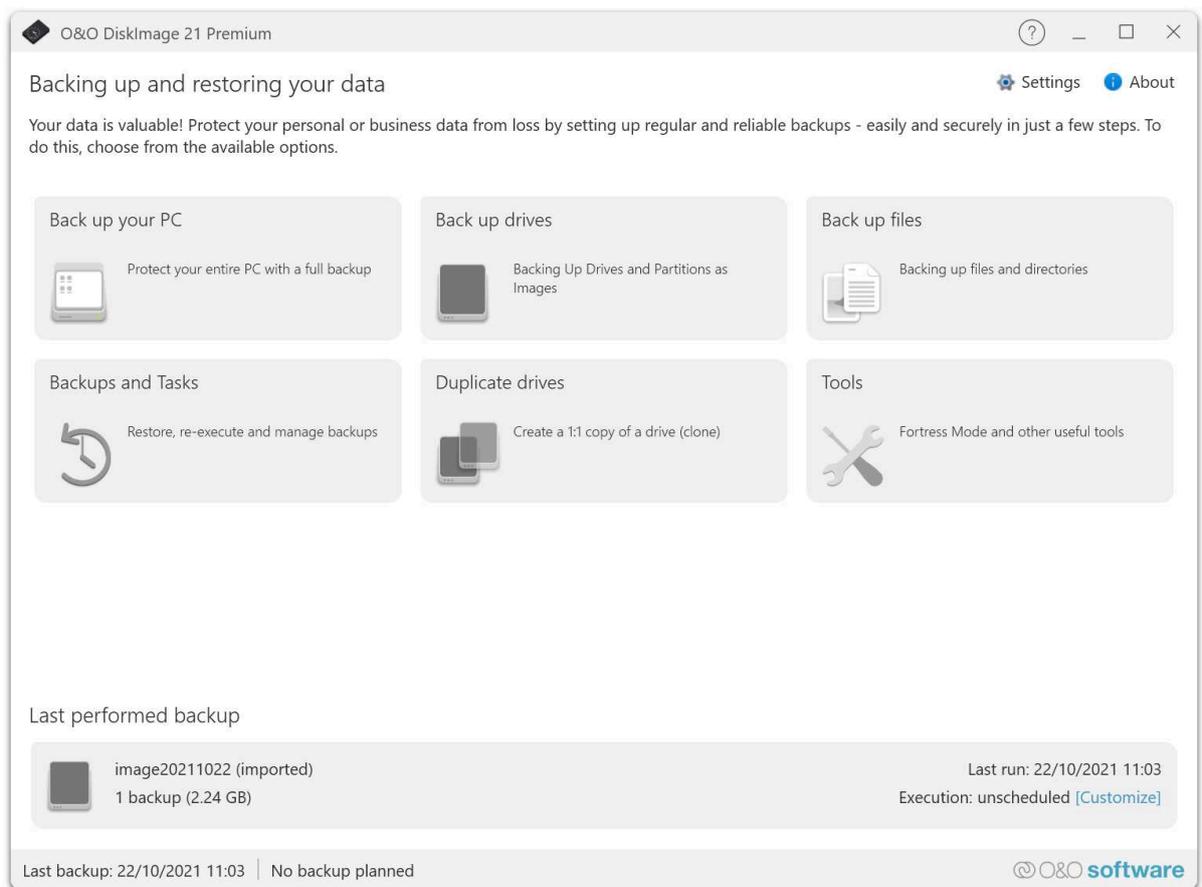
Figure 2: Main view
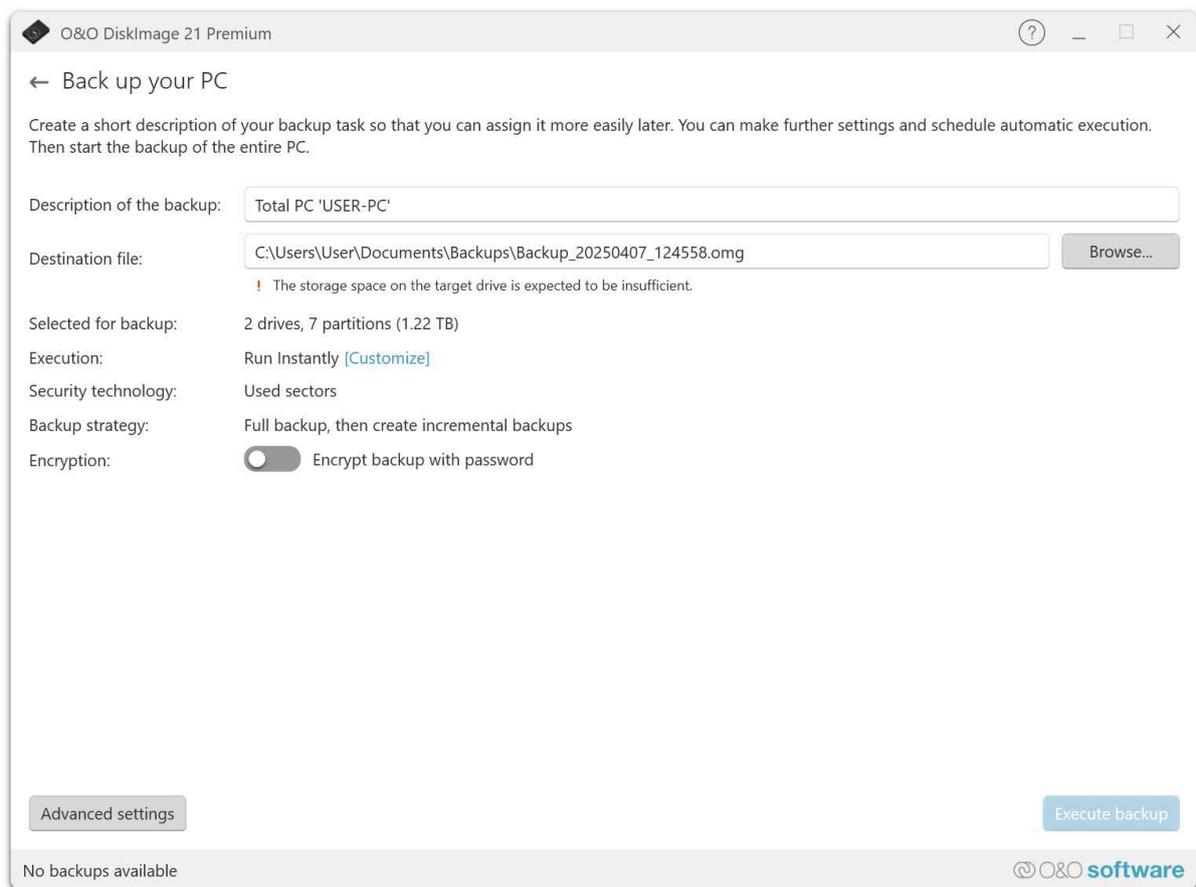
Figure 3: O&O DiskImage Premium

> Note: We recommend using an external storage medium, e.g. a USB hard drive or a network drive, as the target directory for the quick backup.

How to proceed:

1. Start O&O DiskImage and select "**Backup PC**" on the start page.

2. The backup is automatically named after the creation date, but you can also enter a name manually.

3. Check the target path and adjust it if necessary using the "**Browse…**" button to navigate to any directory.

4. Click "**Run backup**" to start the backup process. The process may take some time depending on the size of the hard drive(s).

Back up drives

The "**Back up drives**" function allows you to back up specific drives on your computer. This can be particularly useful if you don't want to protect the entire system, but only certain data or partitions. With this method, you specifically select the drives you want to back up and can set specific backup options.

How to do it:

1. Start O&O DiskImage and select "**Back up drives**".

2. Select the drives you want to back up. You can select either entire drives or specific partitions.

3. Name the backup file. By default, the backup is named after the creation date, but you can also manually give it a name that reflects the content or the backup date.

4. Check the destination path and adjust it if necessary using the "**Browse…**" button to navigate to any directory.

5. Set backup options, such as compression and backup method.

6. Click "**Run backup**" to start the backup process. The process may take some time depending on the size and number of drives selected.

By specifically selecting certain drives, this function offers you flexibility in data backup and enables you to efficiently protect critical data without having to back up the entire system.

Back up files

The "**Back up files**" function allows you to back up specific files and folders on your computer. This is ideal if you only want to protect certain important documents, photos or other special files without having to perform a full drive backup. This function allows you to specifically select the files and folders to be backed up and set individual backup options.

Procedure:

1. Start O&O DiskImage and select "**Back up files**".

2. Navigate your file system and select the specific files and folders you want to back up. You can select individual files or entire folders to back up.

3. Name the backup file. By default, the backup will be named after the creation date, but you can also manually give it a name that reflects the contents or the backup date.

4. Review the destination path and adjust it if necessary using the "**Browse…**" button to navigate to any directory.

5. Set backup options, such as compression and backup method. You can decide whether to compress files to save space and whether to create incremental or full backups.

6. Click "**Run Backup**" to begin the backup process. The process may take some time depending on the size and number of files and folders selected.

This targeted file backup offers you flexibility and efficiency in data backup by allowing you to protect only the really important and necessary data without storing redundant data.

Backups

The "**Backups**" feature in O&O DiskImage Premium offers you comprehensive options for managing your existing backups. You can import backup files, move backups or update your backups to ensure that your data is always up to date.

How to do it:

1. Open O&O DiskImage and select "**Backups**" from the main menu.

2. You will see a list of your existing backups. Here you can select individual backup archives to see details or perform further actions.

Managing backups:

- **View details:** Select a backup from the list to see specific information such as the date of the backup, size and content.

- **Update backup:** If you have made changes to the files or systems included in a particular backup, you can update the backup to reflect those changes. Select the backup and click "**Rerun backup**".

Delete backups:

- **Remove unnecessary backups:** To free up storage space, you can delete old or no longer needed backups. Select the appropriate backup and click "**Delete**" to permanently remove it.

> Note: Make sure you only delete a backup if you are sure the data is no longer needed or is otherwise backed up.

By effectively managing your backups with these features, you can ensure that your data is not only protected, but also up-to-date and easily accessible.

Duplicate drives

The "**Duplicate drives**" feature in O&O DiskImage Premium allows you to transfer an exact copy of a drive to another drive. This can be useful if you are upgrading your hard drive or simply want to make a direct copy for backup purposes. Duplicating a drive will delete all existing data on the target drive, so caution should be taken.

> Note: Please make sure that all important data on the target drive is backed up before you start the duplication process, as all data on it will be deleted.

How to proceed:

1. Open O&O DiskImage and select the "**Duplicate Drives**" option from the main menu.

2. Select the source drive, i.e. the drive you want to duplicate.

3. Select the target drive to which the data should be transferred. Make sure that the target drive is large enough to hold all the data on the source drive.

4. Review the selection and confirm that you understand that all data on the target drive will be deleted. Confirm your selection to continue with the duplication process.

5. Start the duplication process by clicking "**Start Drive Duplication**". The process may take some time depending on the size of the drives.

Things to consider:

- **Destination drive capacity:** The destination drive must be at least as large or larger than the source drive.
- **Avoid interruptions:** Make sure the process is not interrupted to avoid data loss or damage to the destination drive.
- **After duplication:** Verify the duplicated drive for health and functionality to ensure the duplication process was successful.

Duplicating drives is an effective way to ensure you have a ready-to-use copy of your system or data, which can be beneficial in various scenarios, such as hardware upgrades or creating redundant backups.
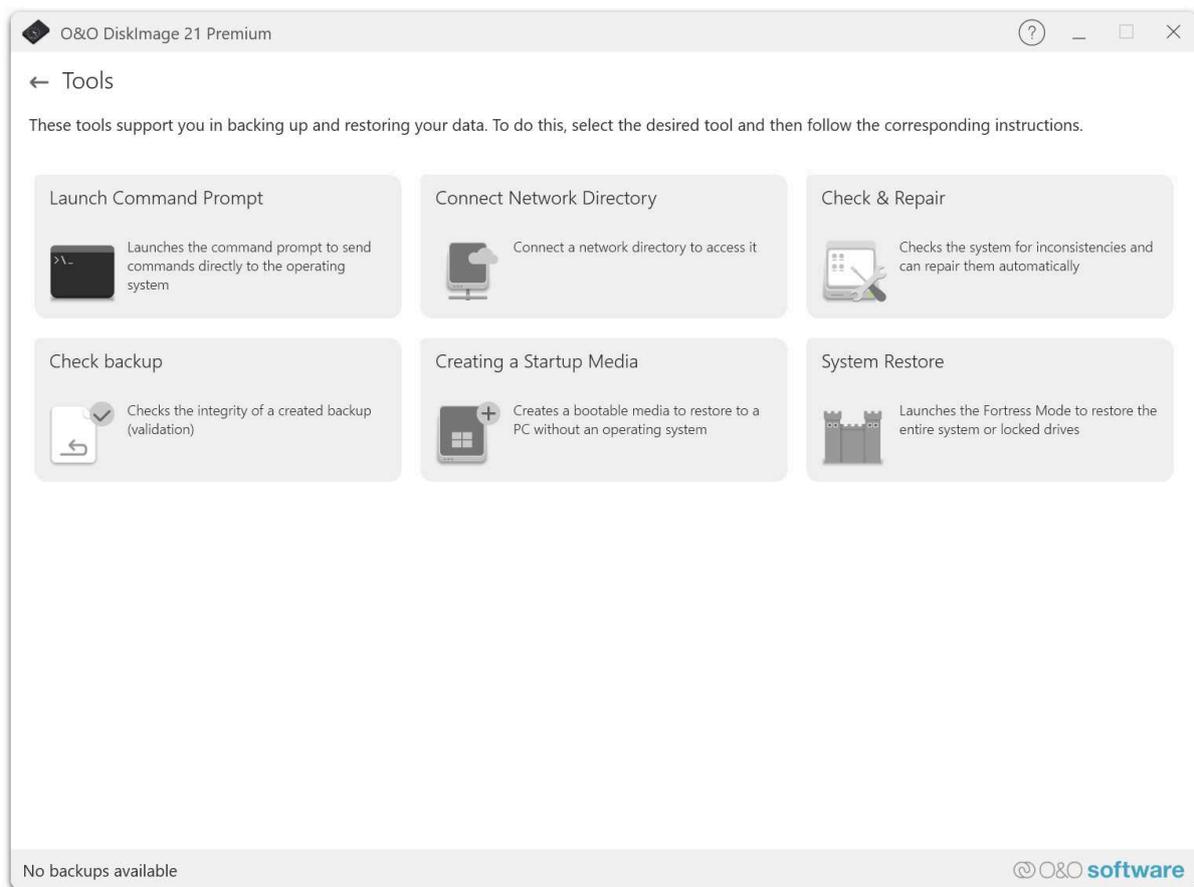
Figure 4: O&O DiskImage Premium - Tools

Tools

Launch Command Prompt

The **Launch Command Prompt** option in O&O DiskImage 21 Premium allows you to open a command-line interface where you can execute advanced commands directly on your operating system. This function is especially useful for experienced users who want to perform specific system configurations or troubleshoot issues.

Using the Command Prompt

When selecting this function, the Command Prompt (CMD) window opens. Here, you can enter various commands to change system settings, retrieve system information, or manage services.

Examples of useful commands:

- `chkdsk`: Checks the file system and the condition of the hard drive for errors. Example: `chkdsk C: /f` repairs found errors on drive C.
- `sfc /scannow`: Starts the System File Checker, which scans and attempts to repair corrupted system files using correct versions.
- `diskpart`: A powerful disk partitioning tool. With `list disk`, for example, you can display all disks, and with `select disk 1` and `clean`, prepare a drive for reformatting.
- `ipconfig /all`: Displays all network configuration values including IP address, subnet mask, and default gateway.

Safety Precautions

Be careful when using the command prompt, especially with commands that alter system settings or delete data. Make sure you understand what a command does before executing it.

Using this feature purposefully allows you to manage your system effectively and resolve issues directly at the operating system level.

Connect Network Folder

This function allows you to connect to a shared network folder, giving you direct access to backup files or other data stored on a NAS or shared folder structure. This enables you to efficiently integrate centralized storage solutions into your backup strategy.

Steps:

1. Open O&O DiskImage and go to the **Tools** section.
2. Select the **Connect Network Folder** option.
3. Enter the network address of the shared folder and, if necessary, provide login credentials (username and password).
4. Confirm the connection. The connected folder will now appear in your directory list and can be used as a backup destination or source for recovery files.

   :warning: **Note:** Ensure that the network folder is always accessible and has sufficient permissions to access all required files.

Check & Repair

The **Check & Repair** function allows you to check and repair damaged backup files. This tool scans the system for inconsistencies and can automatically correct them. Please note that the process may take several minutes depending on disk usage and the type of storage device.

Check & Repair Options

- **Check component store**: Scans the Windows component store for corruption and ensures integrity.
- **Check system files**: Analyzes system files for correctness and repair needs.
- **Drive check**: Inspects physical and logical sectors on the drive for errors.
- **Check Windows Recovery Environment**: Ensures that the Windows Recovery Environment (Windows RE) is working properly and is error-free.

These checks are essential to ensure the reliability of your backups and to confirm that your data can be fully and correctly restored when needed.

Verify Backup

The **Verify Backup** function allows you to validate the integrity of a created backup. This verification ensures that the backup file is complete and free of errors, reducing the risk of data loss during recovery.

Steps:

1. Open O&O DiskImage and go to the **Tools** section.
2. Select **Verify Backup**.
3. Choose the backup file you want to verify.
4. Start the verification. The system will analyze the file for inconsistencies or errors.
5. Once the verification is complete, you will receive a summary of the results.

    :warning: **Note:** Verifying a backup may take additional time depending on the size of the file and system performance.

Create Boot Medium

With the **Create Boot Medium** function, you can create a bootable medium that allows you to restore a PC even if no operating system is installed. This medium (e.g., a USB stick or CD/DVD) contains a recovery environment that lets you start your system and access O&O DiskImage's recovery tools.

Steps:

1. Open O&O DiskImage and go to the **Tools** section.
2. Select **Create Boot Medium**.
3. Choose the desired target medium (e.g., USB stick or optical disc). Note that all data on the selected medium will be erased.
4. Follow the instructions in the wizard to create the bootable medium.
5. Once completed, you will have a bootable device that allows you to start your PC and access the recovery environment without a pre-installed operating system.

    :warning: **Note:** Before creating the boot medium, make sure all important data on the selected device is backed up, as it will be irreversibly deleted during the process.

System Recovery

To restore your entire PC, you must boot the machine into a special recovery mode. This ensures that the system is restored without interference from the operating system or potential malware.

Requirement: A working recovery environment

- **Check Windows Recovery Environment:** Before starting the recovery process, O&O DiskImage checks whether a functioning Windows recovery environment is available. This environment is crucial, as it serves as the foundation for launching the recovery mode.

Recovery Steps:

1. **Launch O&O DiskImage:**
   Open the software and navigate to the **System Recovery** section.

2. **Check recovery environment:**
   The program will automatically verify the availability and functionality of the Windows recovery environment. This check ensures that all necessary components for a recovery are present.

3. **Integrate Fortress Mode:**

    - **Integration:** Select the **Integrate** option to add O&O DiskImage's Fortress Mode to the recovery environment. This enables advanced security and recovery options.
    - **Restart the PC:** Once all settings are reviewed and configured, restart your PC to begin the recovery process. Your system will now boot into recovery mode with Fortress Mode enabled.

    :warning: **Note:** Make sure all important data is backed up before restarting your PC, as the recovery process may overwrite existing data on your drives.

Using the dedicated recovery environment and O&O DiskImage's Fortress Mode integration allows for a reliable and secure system restoration. This minimizes the risk of data loss and ensures your PC is quickly back in working condition.

Settings

In the **Settings** of O&O DiskImage Premium you can configure the software according to your personal needs and preferences.
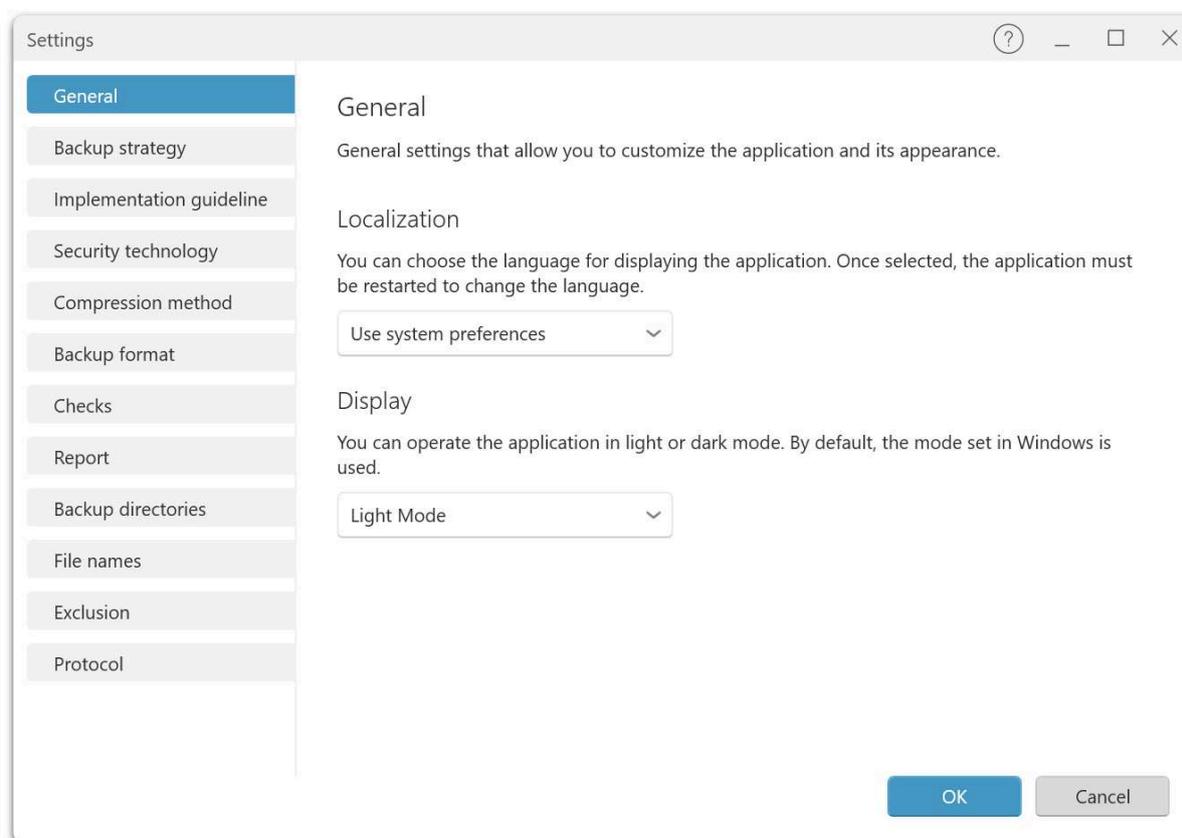
Figure 5: General settings

General

Localization

Set the language of the user interface according to your requirements. Available are: German (DE) - English (EN) - French (FR) - Spanish (SP) - Italian (IT) - Russian (RUS) - Japanese (JAP) - Chinese (CH)

Select your preferred language to ensure that all menus, dialogs and help texts are displayed in the selected language.

Display mode

Adapt the visual appearance of the application to your visual preferences or work environment:

- **Bright mode:** Selects a light color scheme for the user interface, ideal for bright work environments.
- **Dark Mode:** Enables a dark color scheme that is particularly easy on the eyes in dark environments or at night.
- **System Settings:** Automatically adjusts the color scheme to match your operating system settings.

Choose the mode that best suits your current environment or preferences. This can help reduce eye fatigue during prolonged use and makes working with the software more comfortable.

Backup Strategy

Choosing the right **backup strategy** is crucial to meeting your data backup and recoverability needs. O&O DiskImage offers several strategies to choose from, depending on your data change frequency and storage needs.

Backup strategy options:
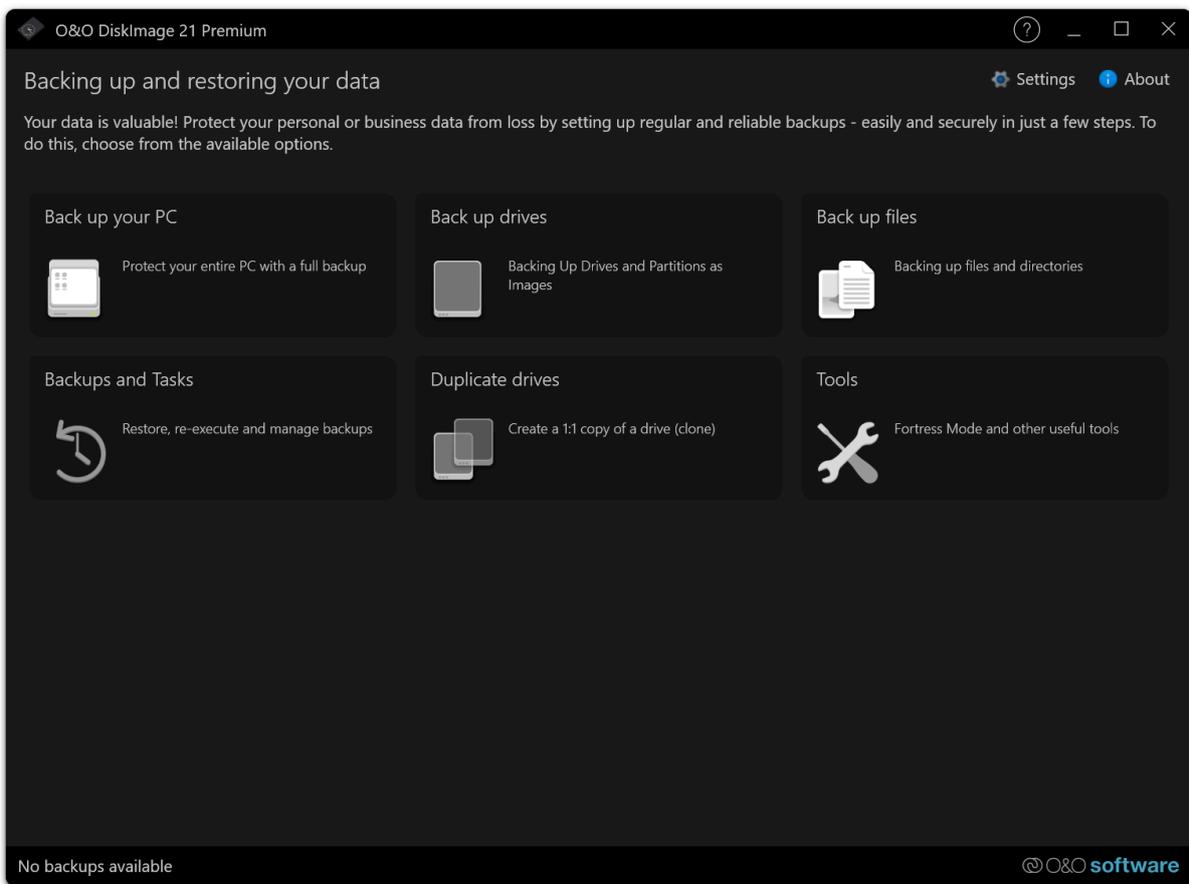
Figure 6: Dark Mode

- **Full backup, then create incremental backups:** Start with a full backup of your system or selected drives. After the initial full backup, only the changes since the last backup will be saved. This method saves disk space and reduces backup time, as only changes are captured after the first full backup.

- **Full backup, then create differential backups:**

As with the first option, this strategy starts with a full backup, then creates differential backups that capture all changes since the last full backup. This option offers a good compromise between disk space requirements and speed of recovery, as each differential backup allows a full recovery to the point of the last backup.

- **Only create full backups:** This option creates a full copy of the selected data each time. This strategy uses the most disk space, but has the advantage that each backup file is independent and no other files are needed for recovery.

> Note: It is recommended that you regularly review the storage requirements and efficiency of your chosen backup strategy and make adjustments as needed to ensure that your data is always effectively protected.

Execution Policies

The **Execution Policies** determine how backup cycles are handled in terms of full and differential (incremental or differential) backups. These settings are critical to automating the backup process and ensuring that your data is backed up regularly and efficiently.

Execution Policy Configuration:

- **Full Backups After Differential Backups:**

Determine after how many differential (incremental or differential) backups a full backup will be performed again. This helps minimize the risk of a long chain of incremental or differential backups increasing recovery time and complexity.

Setting Options:

Enable or disable this feature as needed. When enabled, full backups will be performed automatically after a set number of differential backups.

Selecting the number of change backups: Specify the exact number of change backups to be performed before initiating a new full backup.

> Note: It is important to find a balance between the number of change backups and full backups to use storage space efficiently on the one hand and to ensure the security and speed of data recovery on the other.

By carefully configuring the execution policies, you can optimize the backup process and ensure that your backup strategy meets the needs of your company or personal data.

Backup technique

In the **Backup technique settings** of O&O DiskImage Premium, you can select which method is used to create images of your drives and data. Each technique offers different advantages that may be relevant depending on your security requirements and storage space needs.

Backup technique options:

- **Used sectors:**

This technique creates an image of the drives by copying only the sectors that are actually in use. This saves disk space and speeds up the backup process, as empty areas of the drive are ignored.

- **Forensic Backup:** Forensic backup creates a complete image of the drive, including all currently unused but potentially recoverable data. This technique is particularly suitable for legal or investigative purposes, where it is important to extract every possible piece of information from the drive.

- **Direct Forensic Backup:** This method is a specialized form of forensic backup that creates an even more detailed image. It must be performed in fortress mode, which includes additional security measures and protocols to ensure the integrity of the backed up data.

> Note: Direct Forensic Backup can only be performed in fortress mode. Enable this mode under Tools before starting such a backup.

Compression Method

Setting the **compression method** in O&O DiskImage Premium allows you to save storage space by reducing the size of the backup files. You can choose whether to enable compression and select from various compression methods the one that best suits your needs.

Enable compression

Decide whether to enable compression for your backups. If compression is disabled, the data will be backed up in its original size. This can be faster but requires more storage space.

Selecting the compression method:

- **Lempel-Ziv algorithm (default):** This is the default option that provides balanced compression without significantly affecting backup speed.

- **Lempel-Ziv algorithm (maximum):** This option provides stronger compression that may take more time but further reduces the storage space required by the backup files.

- **ZIP Deflate Compression:** A common and efficient compression method that is well supported and used in many applications.

- **BZIP Method (1K Block Size):** Provides efficient compression with a smaller block size, which can be faster but may compress less than larger block sizes.

- **BZIP Method (4K Block Size):** A middle ground between the 1K and 9K block sizes, offers a good balance between compression ratio and speed.

- **BZIP Method (9K Block Size):** Provides the highest compression ratio among the BZIP options, ideal for maximum file size reduction at the expense of speed.

> Note: Be aware that stronger compression may increase the duration of the backup and may use more of your system's resources.

By carefully choosing the compression method, you can effectively manage the storage requirements of your backups and optimize the balance between storage requirements, speed and system resources.

Backup format

The choice of **backup format** affects how your data is stored and can affect compatibility with other systems and software. O&O DiskImage Premium offers various formats to meet different needs and preferences.

Available backup formats:

- **O&O DiskImage format:**

This is the default format of O&O DiskImage. It is specifically optimized for use with O&O DiskImage and offers the best performance and integration with the software's features.

- **Virtual Hard Disk format (VHD):**

The VHD format is a disk image format developed by Microsoft that is used in various virtualization solutions. It enables compatibility with systems that use VHD for virtual machines or as a backup format.

- **Virtual Hard Disk Extended format (VHDX):**

VHDX is an extended version of the VHD format that offers larger storage capacities and improved error recovery technologies. This format is particularly suitable for use on more modern systems using Windows 8 and above.

> Note: Make sure that the format you choose is compatible with your hardware and any systems on which you may need to access the backup files.

Verify backups

The **Verify backups** feature in O&O DiskImage Premium allows you to ensure the integrity of your backups by choosing whether to validate each backup after it has been completed. This is an important option to ensure the reliability and correctness of the stored data.

Validate backup after completion

You can choose to automatically validate each backup after it has been completed. This check ensures that the backup files are error-free and complete, which is especially important if the data is needed for critical applications or to recover from a data loss.

- **Time required:** Please note that validation takes additional time. The duration depends on the size of the backup files and the performance of your system. It is an important investment in data security, but can lengthen the overall backup process.

- **Recommendation:** It is recommended to enable validation for important backups, especially if the data is not regularly verified by other means. This can help identify potential problems early and increase the reliability of your data backup strategy.

> Note: Consider whether validation should be performed for all types of backups or only those that are particularly critical to your data recovery strategy.

By enabling these checks, you can increase the confidence that your backups will work reliably and effectively when needed.

Report

The **Report** feature in O&O DiskImage Premium gives you the ability to get detailed reports on each backup operation. These reports can contain valuable information about the history and status of the backups, which is particularly useful for monitoring and documenting the success of the backup operations.

Create Report

When enabled, O&O DiskImage creates a detailed report after each backup, which includes important information such as the time of the backup, the files involved, the disk space used and any errors during the process. These reports are particularly useful for monitoring your backup processes and for troubleshooting.

> Note: Think carefully about whether reports are necessary for your backup strategy. While they can provide valuable insight, they also increase the administrative effort and resources required.

By selectively enabling or disabling the report feature, you can ensure that you get the information you need without creating unnecessary system load.

Backup directories

Configuring **backup directories** is an important aspect of the data backup strategy in O&O DiskImage Premium. This setting allows you to determine where your backup files should be stored. You can specify multiple directories, which will then be considered by the system in descending order of available storage space. This ensures that storage space is used optimally and the backups are stored where the most space is available.

Managing backup directories:

- **Adding directories:**

Add additional directories in which your backups should be stored. This can be useful if you use multiple storage media or want to set up special areas for certain types of backups.

- **Changing directories:**

Change the path information of existing backup directories if necessary, for example if a drive has been replaced or the storage location has changed.

- **Removing directories:** Remove directories from the list that you no longer want to use for backups. This can happen if a storage medium is no longer available or required.

> Note: Make sure the directories you select have enough storage space and are safely accessible to avoid data loss.

File names

The **File names** setting in O&O DiskImage Premium allows you to specify specific paths and file names for your backup files. This feature is particularly useful for improving the organization of your backup files and making them easier to identify. Using placeholders to dynamically generate file names can help to automatically name the backup files according to date, time or other specific criteria.

Storage path and file name configuration:

- **Storage path:**

Specify the exact path where your backup files should be saved. This can be a local folder, a network path or an external drive.

- **File name:**

Determine how your backup files should be named. You can use fixed names or use placeholders to generate dynamic names that are automatically adjusted. Placeholders can, for example, contain the current date, time or a sequential number to uniquely identify each backup.

- **Preview:** After you have specified the path and file name configuration, you can see a preview of the resulting file name. This helps you to check that the file name is formatted as desired and that all wildcards are resolved correctly.

Exclusion list

The **Exclusion list** in O&O DiskImage Premium is a powerful tool that allows you to exclude specific files and directories from the backup. This feature is particularly useful for optimizing the storage space requirements of your backups and ensuring that only the really important and needed data is backed up.

Using the exclusion list:

- **Exclude files and directories:**

You can add individual files or entire directories to the exclusion list to prevent them from being included in the backup. This can be useful for temporary files, system cache files or personal media that are already backed up elsewhere, for example.

Configuring the exclusion list:

1. Open O&O DiskImage and navigate to the **Settings** section.
2. Select **Exclusion List** from the menu.
3. To add files or directories, click "**+**" and navigate to the corresponding files or folders you want to exclude.
4. Select the files or directories you want to exclude and confirm your selection.
5. The selected items will be added to the list and excluded from future backups.
6. To remove an entry, select it from the list and click "**-**".

> Note: Consider carefully which files or directories you exclude. It is important not to inadvertently exclude critical data from the backup.

Log

The log feature in O&O DiskImage Premium is an important tool for monitoring and analyzing your backup operations. Enabling logging allows you to keep detailed records of each backup performed, which is helpful for troubleshooting and optimizing backup processes.

Enable logging This feature allows you to create detailed logs of your backup processes. These logs record information such as the start and end time of the backup, files involved, size of the backups, and errors and warnings that occurred.

Benefits of logging:

- **Troubleshooting:** The logs can provide valuable insight if problems occur during the backup. Error messages and warnings are recorded in the log and make it easier to diagnose and resolve problems.

- **Monitoring:** Logs allow you to monitor the progress of your backup strategy and ensure that all scheduled backups are performed properly.

- **Documentation:** Logs serve as documentary evidence that backups have been performed, which may be required in certain regulatory or operational environments.

Info

Version number

See which version of O&O DiskImage you are currently using.

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