

Backup Operations

Overview

This chapter covers both the basic and advanced backup operations that can be performed on a backup server's local hard drives, network drives, and Arcada agent workstations.

Note: When making selections for backup, it is suggested that you log in as the user you used for the Arcada Service Account, or someone with equivalent rights. Doing so lets you view and select data using the same rights as the Arcada Service Account, and therefore, reduces the chance of a security conflict when the operation (job) runs.

Basic Backup Operations

Selecting Devices to Back Up

On the left side of each icon displayed in the Backup Selections window is a small check box. If a choice is available, the box appears with a white background; if the choice is not available, the box appears gray.

When the mouse pointer is over the check box, the pointer changes to a pen. Using the pen, click the check box to select the drive. The check mark indicates the drive has been selected. If you make a wrong choice, clicking the check box removes the check mark; the selection reverts to its prior state. You can also select a drive by highlighting a drive label by clicking it and then clicking the Check button found on the Selection Bar; this includes all files and directories contained in the selection. To de-select a drive, highlight the drive by clicking its icon or label, and click the button called Uncheck. You can also use Uncheck All (under Select in the menu bar) to cancel all selected devices and start over.

Protecting Drives and Shares

This section explains the procedures used when backing up drives or shares either locally or from computer shares found on the network. These procedures are the same regardless of whether you are making selections from local drives, network drives, Arcada Agents, or user-defined shares.

Selecting Drives

To back up all files on a drive or multiple drives, follow these steps:

1. Click the check box preceding each drive's name or letter you want to back up.

A check mark appears in each checkbox. All files and directories on the target drive(s) are selected for backup.

2. Click the Backup button.

The Backup window appears.

The Backup window displays all backup defaults selected. You can override these settings by making other selections (making changes here does not affect your default settings). Job names and backup set label names can consist of up to 50 characters.

The Schedule button allows you to run this job at a later date and time. The Save Job button allows you to save this job so it can be run at any time or scheduled later. The Advanced button allows you to select advanced options.

3. Click Run Now to start the backup operation.

If Display Progress Indicator is selected in the preference setting dialog box, a Scanning Disk Files message box appears before the backup operation begins. Pressing the cancel button will only cancel the scanning process and disable the progress indicator for this operation.

If you are overwriting the tape, a Replace Information message box appears warning that all data will be replaced on the tape. Click Yes to continue. If you click No, an Append Information dialog box appears asking if you want to append information to the tape; click Yes to continue. Clicking No results in a message appearing asking you to insert another tape.

Once completed, the Job Status – Backup window re-appears displaying the progress of the backup operation.

Since this is the Windows NT environment, you may let the backup run in the background while you go on to perform other tasks. If you plan to do this, Backup Exec may issue prompts requiring a response from you if you selected Backup Open Files or Wait for Open Files To Close.

Note: When Backup Exec runs an operation while minimized, the minimized Backup Exec icon is animated during the operation. When the animation stops, the operation is completed.

4. Click OK after the operation completes.

Protecting Selected Files and Directories

1. Double-click a drive letter or a drive label.

A Selection window appears.

Directory folders appear in the window's left pane. The + appearing on directory folders indicates these folders have additional directories within them. Plain directory folders indicate the directory contains only files. White folders indicate that the directory contains no files.

The right pane displays both directory folders and files. All individual files selected for protection must be selected from the right pane.

The drive's file level can be reached by traversing its directory structure from either the left or right pane by clicking each folder and subfolder as they appear. You can also expand the directory structure by using the choices found in the menu bar selection, Tree.

2. At the file level, select the desired file(s) by clicking the check box preceding the filename.

Note: To protect selected files and directories from other drives, return to the Backup Selections windows and select a different drive and repeat the above procedure. When finished, continue with the following steps.

3. From the menu, click Backup.

The Backup window appears.

Adjust the Backup window settings, if desired.

The Schedule button allows you to run this job at a later date and time. The Save Job button allows you to save this job so it can be run at any time or scheduled later. The Advanced button allows you to select advanced options.

4. Click Run Now to start the backup operation.

If Display Progress Indicator is selected in the preference setting dialog box, a Scanning Disk Files message box appears before the backup operation begins. Pressing the cancel button will only cancel the scanning process and disable the progress indicator for this operation.

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Note: When Backup Exec runs an operation while minimized, the minimized Backup Exec icon is animated during the operation. When the animation stops, the operation is completed.

5. Click OK after the operation completes.

Protecting Network Shares or Volumes

Selecting network computer shares or volumes for backup protection works the same as selecting local drives.

Important: Backup Exec fully supports the Microsoft Windows Network. It also supports any Windows NT-supported networks; however, when backing up data from these other network types, only the data portion of the files are protected (i.e., no binderies, security, etc. is included in the backup of these network workstations).

To protect individual network drives, follow these steps:

1. From the Backup Selections window, double-click the Networks icon.

The Microsoft Windows Network platform appears.

Note: If the NetWare connectivity protocol is enabled at the backup server, the NetWare Network platform also appears.

2. Double-click the name of a platform.

The platform expands.

Note: Under the Microsoft Windows Network platform, a list of domains appear; under NetWare Network, a list of file servers appear.

To view individual Windows NT computers under Microsoft Windows Network, double-click a domain name. All computers in the domain appear and can be individually selected for protection. Under NetWare Network, all file servers appear once the platform expands.

Backing Up Microsoft Windows Network Shares

To backup Microsoft Windows Network shares use the following steps:

- a. Double-click the domain name, which reveals all computers in the domain.
- b. Double-click a computer name to reveal all of the computer shares.

Important: Windows NT creates an administrative share for each local drive on the computer during boot-up. The names of these shares are simply the drive letter and a dollar sign (C\$, D\$, E, etc.). Each of these are shared at the root directory of their respective drive. For security purposes, only members of the Administrators, Backup Operators, or Server Operators group can attach to these shares.

By default, all shares appear. However, based on preferences found under Settings|Network|Enable Windows NT Shares, only those shares that have been enabled will be available for selection.

- c. Click each desired share's check box. This selects all files and directories within the share for backup.
- d. Click Backup.

The Backup window appears. Adjust the window settings, if desired.

The Schedule button allows you to run this job at a later date and time. The Save Job button allows you to save this job so it can be run at any time or scheduled later. The Advanced button allows you to select advanced options.

- e. Click Run Now to start the backup operation.

If Display Progress Indicator is selected in the preference setting dialog box, a Scanning Disk Files message box appears before the backup operation begins. Pressing the cancel button will only cancel the scanning process and disable the progress indicator for this operation.

If you are overwriting the tape, a Replace Information message box appears warning that all data will be replaced on the tape. Click Yes to continue. If you click No, an Append Information dialog box appears asking if you want to append information to the tape; click Yes to continue. Clicking No results in a message appearing asking you to insert another tape.

Once completed, the Job Status – Backup window appears displaying the progress of the backup operation.

- f. Click OK when the operation completes.

Backing Up NetWare Network Volumes

To backup Novell NetWare volumes, use the following steps:

- a. Double-click a fileserver name.
- b. Click each desired volume's check box. This selects all files and directories in the volume for backup.
- c. Click Backup.

The Backup window appears. Adjust the window settings, if desired.

The Schedule button allows you to run this job at a later date and time. The Save Job button allows you to save this job so it can be run at any time or scheduled later. The Advanced button allows you to select advanced options.

- d. Click Run Now to start the backup operation.

If Display Progress Indicator is selected in the preference setting dialog box, a Scanning Disk Files message box appears before the backup operation begins. Pressing the cancel button will only cancel the scanning process and disable the progress indicator for this operation.

If you are overwriting the tape, a Replace Information message box appears warning that all data will be replaced on the tape. Click Yes to continue. If you click No, an Append Information dialog box appears asking if you want to append information to the tape; click Yes to continue. Clicking No results in a message appearing asking you to insert another tape.

Once completed, the Job Status – Backup window appears displaying the progress of the backup operation.

- e. Click OK when the operation completes.

Protecting Workstations using Arcada Agents

Backup Exec for Windows NT Server gives you the option of backing up (or restoring) data from non-Windows NT workstations that are part of your network. These workstations, running the Macintosh, UNIX, and Windows 95 operating systems, use software modules called Arcada Agents that are designed for each specific operating system. All agents are included with your Backup Exec for Windows NT Server package; however, you must purchase a workstation license from Arcada in order to use them. Each workstation license purchased includes an activation key.

Arcada Agent software must be installed on each workstation computer before you can back them up.

Protecting Agent Workstations

Selecting Arcada Agent computers for backup protection works the same as selecting file servers under the Networks icon.

1. Double-click the Arcada Agents icon.

A list of agent workstations appears.

2. Click the check box preceding the agent workstation name.

A Scanning Network Devices message box appears. All agent computers under the desired workstation are selected for protection. To select other workstations for protection, click each workstation's check box.

If the agent workstation is password-protected, an Attach to Device dialog box appears prompting you for a password to the agent.

Important: In the event that some or all of the machine's shares cannot be selected, a light gray check mark appears in the check box. If this occurs, only the agent computers that Backup Exec scanned successfully are selected for back up. Review your security and attachment rights to those computers not selected.

3. Click Backup.

The Backup window appears. Adjust the window settings, if desired.

The Schedule button allows you to run this job at a later date and time. The Save Job button allows you to save this job so it can be run at any time or scheduled later. The Advanced button allows you to select advanced options.

4. Click Run Now to start the backup operation.

If Display Progress Indicator is selected in the preference setting dialog box, a Scanning Disk Files message box appears before the backup operation begins. Once completed, the Job Status – Backup window appears displaying the progress of the backup operation.

If you are overwriting the tape, a Replace Information message box appears warning that all data will be replaced on the tape. Click Yes to continue. If you click No, an Append Information dialog box appears asking if you want to append information to the tape; click Yes to continue.

Once completed, the Job Status – Backup window re-appears displaying the progress of the backup operation.

5. Click OK when the operation completes.

Backing Up Individual Agent Shares

To protect individual computers, follow these steps:

1. Double-click the Arcada Agents icon.

A list of agent workstations appears.

2. Double-click an agent workstation icon.

If the agent workstation is password-protected, an Attach to Device dialog box appears prompting you for a password to the agent.

A Scanning Network Devices message box appears. The workstation expands.

3. Click the check box preceding each agent share name you want to protect.

If the agent workstation share is password-protected, an Attach to Device dialog box appears prompting you for a password to the agent.

4. Click Backup.

The Backup window appears. Adjust the window settings, if desired.

The Schedule button allows you to run this job at a later date and time. The Save Job button allows you to save this job so it can be run at any time or scheduled later. The Advanced button allows you to select advanced options.

5. Click Run Now to start the backup operation.

If Display Progress Indicator is selected in the preference setting dialog box, a Scanning Disk Files message box appears before the backup operation begins. Once completed, the Job Status – Backup window appears displaying the progress of the backup operation.

If you are overwriting the tape, a Replace Information message box appears warning that all data will be replaced on the tape. Click Yes to continue. If you click No, an Append Information dialog box appears asking if you want to append information to the tape; click Yes to continue.

Once completed, the Job Status – Backup window appears displaying the progress of the backup operation.

6. Click OK when the operation completes.

Protecting User-defined Shares

The User-defined Shares section consists of shares residing on certain network workstations (such as IBM's LANServer) that must be manually added to the Backup Selections window. Because of Windows NT technical issues, these workstations are not automatically included in the Backup Selections window so they must be manually added to the Backup Selections window under this section.

Adding a User-Defined Share

To add a User-defined share, follow these steps:

1. From the menu, select Network|User-defined Shares.

A User-defined Shares dialog box appears.

2. In the Define a Share section, enter the share's UNC name.

Example: _____\\Production\graphics

3. Click Add.

The share appears in the Shares defined section of the dialog box. Repeat the process to add additional user-defined shares.

Note: If an invalid UNC path is entered, the target share will not be added to the Shares defined section of the dialog box because the share could not be located on the network. Investigate the share at the source computer.

If you do not have rights to the share, an Attach to Device dialog box will appear.

4. When finished adding shares, click Close.

These shares now appear in the Backup Selections window under User-defined Shares. They can be protected using the same drive and file selection principles mentioned earlier in this manual.

Aborting a Backup

To abort a backup, follow these steps:

1. Click Abort during a backup operation.

You are given the opportunity to confirm your decision to abort. If the operation is not currently processing a file, the Abort window will be displayed.

2. Select Yes or No.

If the operation is currently processing a file, the Backup Exec Abort window appears.

The following choices appear within the Abort dialog box:

Button	Description
Yes	This immediately aborts the backup or restore operation. You may get only part of a file backed up or restored (this file will be marked as corrupt with a red X over the file's icon in the catalog).
EOF (End of File)	This aborts the operation after completing the WRITE operation of the current file being processed.
Cancel	This ignores the abort instruction and continues the backup or restore operation.
Help	This displays help on the abort process.

Advanced Backup Options

This section covers advanced backup operations, which include:

- Types of Backup Methods
- Password Protecting a Backup Tape
- Advanced File Selection

Read Chapter 7, *Strategies*, for more information on what to back up and when to back up. Using these backup methods properly will enable you to set up an easy and efficient backup strategy.

Backup Methods

There are five methods of backup available to you. They are:

- Normal
- Copy
- Differential
- Incremental
- Daily

Normal Backup

Normal backs up all selected files and changes the file's status to indicate that it has been backed up (resets the archive bit after the files are backed up). The archive bit is a file attribute bit that indicates whether or not the file has been modified or created since the last Normal or Incremental backup.

Typically, you should perform a backup using the Normal method. Once this backup is completed, your subsequent backups can be either another Normal backup (where you back up all selected drives, directories, and files) or you can perform an Incremental or Differential backup (where only changed or newly created files are backed up).

Copy Backup

Copy backs up all selected files, but does not affect the file's backup status (does not reset the archive bit).

Differential Backup

Differential only backs up files that were modified or created since the last Normal or Incremental backup. This backup does not affect the file's backup status (does not reset the archive bit).

Incremental Backup

Incremental only backs up files that were modified or created since the last Normal or Incremental backup. This backup type changes the file's status to indicate that it has been backed up (resets the archive bit after the files are backed up).

Daily Backup

The Daily Backup method backs up all files with today's date (created or changed today). The Daily Backup method does not affect the files' backup status (does not reset the archive bit).

Password Protecting a Backup Tape

When starting a Backup or Archive operation, if you select to Replace data on the tape, you can assign a password to the tape in the Backup (or Archive) window. In each case, the password is assigned to the tape and applies to all Backup Sets on the tape (including future Backups Sets appended to the tape).

It is important to remember the password used on your tapes. There is no way to recover data from a tape with a forgotten password.

If you forget a tape's password, you can use the tape again by performing an erase operation. Keep in mind, however, that erasing a tape removes all data from the tape (including the password).

Advanced Backup File Selection

Advanced Backup File Selection enables you to quickly select groups of files to be included in or excluded from your Backup or Archive operation.

Note: This list of drives in the Advanced Backup File Selection dialog box contains network and agent shares that you have expanded or selected in past Backup Exec sessions. If the drive you want to use is not listed, move to the Backup Selections window and expand the computer or agent you want to use. Reselect the Advanced Backup File Selection window and continue.

Advanced Backup File enables you to:

- Include or exclude specific files
- Define file specifications
- Include subdirectories
- Define selection criteria
- Modified files
- Files created or modified within a specific time frame
- Files not accessed in a specified number of days

To make your Advanced Backup File Selections, follow these steps:

1. Select the device(s) to back up.
2. Click the Advanced Backup File Selection button on the Selection bar.

The Advanced Backup File Selection window opens. The following choices are available in the Advanced Backup File Selection window:

Drives	Allows you to select the drive that contains the files to include or exclude. Scroll the box to reveal additional drives.
File Selection	Specify where Backup Exec should look, and what to look for, when selecting files that will be included in or excluded from your Backup or Archive operation.
Path	Enter any available directory or subdirectory on the drive selected. Enter the full path to the subdirectory (do not include the drive identifier). For example, if you selected drive C: and the subdirectory is data in the database directory, your full path would be \database\data.
File	Specify any files to be included or excluded. The use of wildcards is permitted. The asterisk (*) in a file name or extension is a wildcard character that represents all characters occupying any remaining position in the file name or extension. The question mark (?), the wildcard for a single character, is also supported. For example, to exclude all files with the .exe extension, type the following: *.exe The default for File is *.* , which means every file name with every extension will be selected.
Type	Used to determine the type of operation to be performed on the file selection criteria.
Include or Exclude	Select whether to Include or Exclude all files that meet your file specifications. Include is the default. Click Exclude if you want to exclude files (files must be selected before Exclude will work properly).

Selection Criteria	<p>The selection criteria defined here enables you to select:</p> <ul style="list-style-type: none"> • Include subdirectories [default] • Only modified files • Files dated [within a range] • Only files not accessed in [number of] days
Include subdirectories	<p>Choosing to Include Subdirectories will include all subdirectories contained within all directories that are part of your selections.</p> <p>If the operation is beginning at the root level of a disk (e.g., drive C:), all directories and subdirectories on that disk will be included. If you entered a specific path (directory), all of the subdirectories contained within that directory will be included.</p>
Only modified files	<p>Choosing Only modified files will include or exclude all files that have changed or were created since the last Normal or Incremental backup.</p>
Files dated From / To	<p>Choosing Files dated will include or exclude all files that have a modified date within the range of dates specified. You must specify a beginning (From) and ending (To) date.</p>
Only files not accessed in the last [number of] days	<p>Choosing Only files not accessed in [number of] days will include or exclude all files that have not been accessed within the last number of days specified. You must specify the number of days.</p>

3. After making your file selections, click OK.

If you are going to use these selections for only this backup, you can now begin the backup operation. If you want to save these selections for future use, click Select on the menu bar and click Save Selections to create a Selection List.

Job Status Window

The Job Status window displays the status of the current operation. The title bar indicates the operation in progress (e.g., Backup, Restore, Verify). The following information is displayed in the Job Status window:

Set Information x of y	This indicates that backup set x is currently being processed and y indicates the total number of backup sets in the current operation.
Directories	Indicates the number of directories currently processed.
Files	The number of files currently processed.
Bytes	The number of bytes currently processed.
Elapsed time	The amount of time used while performing this operation.
Corrupt files	The number of corrupt files encountered while performing this operation.
Skipped files	The number of files skipped while performing this operation.
Source and destination devices	The source and destination devices are displayed.
Directory and file being processed	This displays the directory and file currently being processed.
Percentage of completion	This shows the percentage of completion and the number of bytes to be processed. A “progress indicator” is displayed showing the completion percentage for this operation. It can be turned on or off based on choices within the Settings Preferences dialog box.

Summary

This contains statistics and error messages for this operation. Use the arrow buttons to scroll through the information displayed in the Summary window. This information is also contained in the logfile.

You can click Abort to terminate this operation or click on OK when the operation is completed.

The Backup Window

Backup Information	Settings and options in this group are specific to the entire Backup operation.
Current Tape	The name of the tape currently in the tape drive is displayed on this line.
Job Name	The Job Name is used when scheduling jobs is necessary or desired. Names entered here are saved when the Save Job or the Schedule buttons are used. All job names created appear under the menu bar heading, Jobs.
Overwrite the tape	Allows you to overwrite a tape.
Tape Name	Allows you to name a tape. This option cannot be used unless the Overwrite the tape option is active.
Label	Allows you label a backup set. This applies to all backup sets.

Backup Options	
Method	Select the backup method for this backup set. The choices are Normal, Copy, Differential, Incremental, or Daily. Information about these five methods appears elsewhere in this book (see Backup Methods on page 3–16). To make your selection, click on the down arrow button located to the right of the Method field and click on your choice.

Advanced Options	
Verify After Backup	If you want to perform a verify operation after your backup is complete, click on the check box next to this option. It is recommended that this option be used.
Password	A password may be entered, if desired. If you are overwriting a tape, this option is used to add a password to the tape. If you are appending data to an existing tape, the password is used to gain access to the password-protected tape.
Loader Option	Abort at end of group – You can select to abort the job at the end of the

	<p>group. This will allow Backup Exec to abort an unattended Backup or Archive operation when the job reaches end-of-media on the last tape in a selected group of tapes. This selection is especially useful during unattended operations when no one is available to supply a new continuation tape.</p>
Compression	<p>Hardware data compression is available only if it is supported by your tape drive. Tapes containing data compressed by your hardware may not be portable to other tape drives. If your tape drive does not support data compression, this option is grayed out.</p> <p>Software data compression is available by checking this box.</p> <p>Selecting Compression compresses all files selected, on all volumes selected, during Backup or Archive operations.</p> <p>Only Hardware or Software Compression may be selected; not both.</p>
Skip Open Files	<p>Select Yes to skip open files or No to back up open files. If the file does not close during the wait period, it will be skipped.</p>

Other	<p>Allows you to specify whether to:</p> <ul style="list-style-type: none"> • Print Log File • Eject Tape at end of operation • Include the disk-based catalogs in the backup operation.
Catalog	<p>This option controls “on-disk” catalogs. Select Full cataloging or Partial cataloging. Full cataloging will include the tape name and date, all backup set names and dates, all subdirectories, and all file names and file detail. Partial cataloging will include tape and backup set information only. File information is not included.</p>
Commands	<p>The two options, Before and After allow you to specify .EXE or batch file commands that are invoked before a backup job starts and after it finishes.</p> <p>Backup Exec will launch the command, wait 15 minutes for the command to execute, and then process the backup job. If the command fails to launch after the 15 minute time frame, Backup Exec does not start the backup job. It then logs both the failed command and the backup job as an error in a log file.</p> <p>As an example, the Before field can be used to enter a command that will shut down a database. Backup Exec will then run a job backing up the database. Once the job completes, the After field can be used to enter a command that will start a database. The Before and After commands are saved along with other backup job options.</p>

Hardware	
Device	<p>This allows you to pick a tape drive to use with this backup job. If only one tape drive is attached to this backup server, the default tape drive will appear. If you have multiple tape drives attached, single-clicking the Device field presents you with a list of attached drives. Click the one you want to process this job.</p>
Magazine	<p>This selection is used with attached autoloaders. This option is grayed-out unless a loader is selected in the Hardware Device drop-down list found within the Backup dialog box.</p> <p>If a loader is attached, this field displays the previous magazine that was used to process a job.</p>
Group	<p>This selection is used with attached autoloaders. This option is grayed-out unless a loader is selected in the Hardware Device drop-down list found within the Backup dialog box.</p> <p>If a loader is attached, this field displays the previous tape group (within a magazine) that was used to process a job.</p>

Run Now	Initiates an interactive, real-time job.
Schedule	Allows you to schedule the job for processing at a later time using the Backup Exec Scheduler.
Save Job	Allows you to save all selection and Backup window information as a job to be run at a later time. A Saved Job appears in the Jobs option found on the main Backup Exec menu bar.