IBM WebSphere Transformation Extender

Archive (Tar) Adapter

Version 8.1

Contents

Chapter 1. Archive (Tar) Adapter

This documentation introduces the Archive (Tar) adapter. You can use the adapter with a Command Server, Launcher, Software Development Kit, or map in a map rule.

Overview

Use the Archive (Tar) adapter to create, delete, update, add to, or extract from UNIX tape archive files. The Archive (Tar) adapter supports standard UNIX permissions, user ID attributes, and group ID attributes. This adapter is only for UNIX platforms and z/OS UNIX Systems Services (USS). To archive files on Windows platforms, use the Archive (Zip) adapter.

Converting data to ASCII on z/OS

The Tar adapter cannot be used to convert your data to ASCII format when you are running your maps on a z/OS operating system on an IBM z/Architecture platform. To convert your data to ASCII format, you must use your map, along with the appropriate rules, to perform the conversion.

System requirements

The minimum system requirements and operating system requirements for the Archive (Tar) adapter are detailed in the release notes. It is assumed that a Command Server has already been installed on the computer where the adapter is to be installed for run-time purposes.

Chapter 2. Command alias

Adapter commands can be specified by using a command string on the command line or by creating a command file that contains adapter commands. The execution command syntax is:

```
-IA[alias] card_num
-OA[alias] card_num
```

where `-IA` is the Input Source Override execution command and `-OA` is the Output Target Override execution command, *alias* is the adapter alias, and *card_num* is the number of the input or output card. The following table shows the adapter alias and its execution command.

Adapter	Alias	As Input	As Output
Archive (Tar)	TAR	-IATAR*card_num*	-OATAR*card_num*

Chapter 3. Archive (Tar) commands

This is a description of the functions and use of the Archive (Tar) adapter commands and their options.

List of commands

The following table lists valid commands for the Archive (Tar) adapter, the command syntax, and whether the command is supported (✔) for use with data sources, targets, or both.

Command	Syntax	Source	Target
Tar File Archive (-ARCHIVE)	-ARCHIVE *tarfile*	✔	✔
Archive File (-FILE)	-FILE *filename* [-UNIQUE]	✔	✔
Group ID (-GID)	-GID *gid_num*	✔	✔
Tar File Member (-MEMBER)	-MEMBER *filename* [-D|-X|-A|-C|-D|-U]	✔	✔
File Permissions (-PERM)	-PERM *perm_num*	✔	✔
Trace (-T)	-T[E][+][*full_path*]	✔	✔
User ID (-UID)	-UID *uid_num*	✔	✔

You can append trace information to the existing trace file by using either the `A` or `+` option.

Tar File Archive (-ARCHIVE)

Use the Tar File Archive adapter command (`-ARCHIVE`) to specify which tar file will be accessed.

`-ARCHIVE` *tarfile*

Option Description

tarfile   Required value. Specify the name of the tar file being used.

For example, to specify the **edi_in.tar** file to be accessed:

`-ARCHIVE /vault/backup/edi_in.tar`

Archive File (-FILE)

Use the Archive File adapter command (`-FILE`) to extract a member to a file or instruct the adapter to add the contents of a file on disk to the specified archive in the map directory. Data passed from the output card is ignored.

`-FILE` *filename* [-UNIQUE]

Option Description

filename
> Required value. Specify the name of the resulting archive file.

-UNIQUE
> When extracting a member from the archive, this creates a file with a unique name to hold the data from the member.

When the Archive File adapter command (`-FILE`) is not specified, data passed to and from the adapter is through memory. For example, when extracting a member from an archive, the data is read into memory and then returned to the map. Similarly, when adding a member, the data is normally passed to the adapter in memory.

For example, to specify the **edi_08011999.dat** file as the resulting archive file:

```
-FILE edi_08011999.dat -UNIQUE
```

Group ID (-GID)

Use the Group ID adapter command (`-GID`) to set the group ID of the member to be archived or extracted.

```
-GID gid_num
```

Option Description

gid_num
> Specify a group ID to be archived or extracted.

When adding a member and `-GID` is not specified, the group ID is set to 0, the root, unless `-FILE` is specified, in which case the member inherits the GID of the file.

When extracting a member and `-GID` is not specified, but `-FILE` is specified, the group ID of the file to which the member is extracted is set to the same GID as the extracted member.

The Group ID adapter command (`-GID`) is only supported in environments that support group IDs.

Tar File Member (-MEMBER)

Use the Tar File Member adapter command (`-MEMBER`) to specify which tar file member is to be modified.

```
-MEMBER filename [-A|-C|-D|-X|-U]
```

Option Description

filename
> Required value. Specify the name of the member file.

-A
> Add the member file specified by *filename* to the archive. This option is only valid for data targets.

-C
> Create the new member file specified by *filename*. This option is only valid for data targets.

-D
> Delete the member file specified by *filename* from the archive. This option is valid for either data sources or data targets.

-X   Extract the member file specified by *filename* from the archive. This option is only valid for data sources.

-U   Update the member file specified by *filename* in the archive. This option is only valid for data targets.

The Tar File Member adapter command (`-MEMBER`) also requires the use of the Tar File Archive adapter command (`-ARCHIVE`).

File Permissions (-PERM)

Use the File Permissions adapter command (`-FILE`) to set UNIX permissions on the file to be extracted or archived.

`-PERM` *perm_num*

Option Description

perm_num
Specify the permission number. Standard UNIX octal codes are supported.

For example, to specify the UNIX permission number of **0777** on the file to be extracted or archived:

`-PERM 0777`

When adding a member through memory the default permissions of 0777 are used. When adding a member using the Archive File adapter command (`-FILE`), the permissions on the file are used.

When doing an extract, specify the `-PERM` command to set the permissions for the extracted file if the `-FILE` adapter command was used. If the `-FILE` adapter command is not specified, the `-PERM` command is ignored.

The File Permissions adapter command (`-PERM`) is only supported in environments that support permissions.

Trace (-T)

Use the Trace adapter command (-T) to produce a diagnostics file that contains detailed information about Archive (Tar) adapter activity.

The default filename is **m4tar.mtr** or *map_name***.mtr**, depending on the options you select, and the file is created in the map directory unless otherwise specified.

`-T[E][+]` [*full_path*]

Option Description

E   Produce a trace file containing only the adapter errors that occurred during map execution. The adapter trace file is produced by default in the map directory, using the full name of the map file with an **.mtr** filename extension (*map_name***.mtr**).

+   Append trace information to the existing trace file by using either the A or + option.

full_path
Creates a trace file with the specified name in the specified directory.

You can override the adapter command line trace options dynamically using the Management Console. Refer to "Dynamic Adapter Tracing" in the *IBM WebSphere Transformation Extender Launcher* documentation for detailed information.

User ID (-UID)

Use the User ID adapter command (`-UID`) to set the user ID of the member to be archived or extracted.

`-UID` *uid_num*

Option Description

uid_num
> Specify a user ID to be archived or extracted.

When adding a member and `-UID` is not specified, the user ID is set to 0, the root, unless `-FILE` is specified, in which case the member inherits the UID of the file.

When extracting a member and `-UID` is not specified, but `-FILE` is specified, the user ID of the file to which the member is extracted is set to the same UID as the extracted member.

The User ID adapter command (`-UID`) is only supported in environments that support IDs.

Chapter 4. Syntax summary

This documentation discusses the Archive (Tar) syntax summary and how it is used.

Data sources

The following is the command syntax of the Archive (Tar) adapter commands used for data sources:

```
-ARCHIVE tarfile -MEMBER filename [-D|-X]
[-FILE filename [-UNIQUE]]
[-PERM perm_num]
[-GID gid_num]
[-UID uid_num]
[-T[E][+][full_path]]
```

Data targets

The following is the command syntax of the Archive (Tar) adapter commands used for data targets:

```
-ARCHIVE tarfile -MEMBER filename [-A|-C|-D|-U]
[-FILE filename [-UNIQUE]]
[-PERM perm_num]
[-GID gid_num]
[-UID uid_num]
[-T[E][+][full_path]]
```

Examples

For the **GET** → **Source** setting in an input card, select **Archive (Tar)**. In the **GET** → **Source** → **Command** field, enter:

```
-ARCHIVE in.tar -MEMBER data.txt -X -TA
```

This command extracts a member file named **data.txt** from a tar file named **in.tar** and appends the trace file.

To override output map card 1 using the Archive (Tar) adapter, add a file named **new.txt** to the **in.tar** tar file with permissions of 0777, enter:

```
-OATAR1 -ARCHIVE in.tar -MEMBER new.txt -A -PERM 0777
```

Chapter 5. Troubleshooting

For information about error codes and messages returned by the adapters, see Return codes and messages.

Adapter trace file

The adapter trace file contains detailed information provided by the adapter, including recorded information about the actions that are taking place such as connections established and statements executed. The trace file is produced during the adapter execution and can be used as a debugging aid.

For information about -T, see "Archive (Tar) Commands".

If adapter tracing is enabled, but the trace file is not created, any of the following could be indicated:

- The path to the Archive (Tar) adapter is incorrect
- The adapter is not located on your path
- The Trace adapter command name is misspelled
- The case for the Trace adapter command is incorrect

If the trace file is created, the shared object has been found and is being loaded. If this is true, there might be an invalid adapter command line or a problem with the tar file.

Sample adapter trace file

```
=== M4TAR Adapter Log ===
Performing initialization for M4TAR_PutArchive
Command line in <-C -MEMBER output1 -ARCHIVE tarout.tar -T>
2 arguments detected
Archiving <output1>
Opened archive 'tarout.tar' successfully
blocksize = 32
a  rwxrwxrwx   0/0     119 output1
a output1 1 blocks
PutArchive succeeded

=== End run. Elapsed time: 00:00:00 ===
```

Chapter 6. Return codes and error messages

Return codes and error messages are returned when the particular activity completes. Return codes and error messages might also be recorded as specified in the audit logs, trace files and execution summary files.

Messages

This list contains all the codes and error messages that can be returned as a result of using Archive (Tar) adapter for sources or targets.

Adapter return codes with positive numbers are warning codes that indicate a successful operation. Adapter return codes with negative numbers are error codes that indicate a failed operation.

Return Code
      Message

0   GetArchive succeeded

0   PutArchive succeeded

-1   Can't open the file %s

-1   Unable to allocate %d bytes

-1   `%s' does not exist

-1   `%s' name too long

-1   `%s' not a file

-1   `%s' not found

-1   `%s' seek error

-1   `%s' unknown file type `%c'

-1   Data not available

-1   Failed to open archive (%s)

-1   Insufficient memory: allocation of %d bytes failed

-1   Insufficient memory: allocation of %d bytes failed

-1   Invalid command line - missing data file name

-1   Invalid command line - missing entry name

-1   Invalid option (-a, -c, or -u) request for M4TAR_GetArchive

-1   Member `%s not found in archive

-1   Out of memory

-1   Unable to allocate memory (%Id bytes)

-1   Unable to create directory %s

-1   Unable to read archive

-1   Archive read error

-1   Bad directory structure

-1	Can't create `%s'
-1	Can't delete `%s'
-1	Can't delete scratch file
-1	Can't link `%s' - data stay in `%s'
-1	Can't open directory `%s'
-1	Can't append `%s'
-1	Delete option (-d) is for file archives only
-1	Directory checksum error
-1	Error extracting `%s'
-1	Error reading `%s'
-1	Tape blocksize error
-1	Tape close error
-1	Tape read error
-1	Tape read failed
-1	Tape seek failed
-1	Tape write error

The following is a listing of all the codes and messages that can be returned as a result of using the Archive (Tar) adapter on RS/6000 AIX only:

Return Code
> **Message**

-2	Invalid Entry Point. Must specify M4TAR_GetArchive or M4TAR_PutArchive.

Notices

This information was developed for products and services offered in the U.S.A.

IBM may not offer the products, services, or features discussed in this document in other countries. Consult your local IBM representative for information on the products and services currently available in your area. Any reference to an IBM product, program, or service is not intended to state or imply that only that IBM product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe any IBM intellectual property right may be used instead. However, it is the user's responsibility to evaluate and verify the operation of any non-IBM product, program, or service.

IBM may have patents or pending patent applications covering subject matter described in this document. The furnishing of this document does not grant you any license to these patents. You can send license inquiries, in writing, to:

IBM Director of Licensing
IBM Corporation
North Castle Drive
Armonk, NY 10504-1785
U.S.A.

For license inquiries regarding double-byte (DBCS) information, contact the IBM Intellectual Property Department in your country or send inquiries, in writing, to:

IBM World Trade Asia Corporation Licensing
2-31 Roppongi 3-chome, Minato-ku
Tokyo 106-0032, Japan

The following paragraph does not apply to the United Kingdom or any other country where such provisions are inconsistent with local law:

INTERNATIONAL BUSINESS MACHINES CORPORATION PROVIDES THIS PUBLICATION "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some states do not allow disclaimer of express or implied warranties in certain transactions, therefore, this statement may not apply to you.

This information could include technical inaccuracies or typographical errors. Changes are periodically made to the information herein; these changes will be incorporated in new editions of the publication. IBM may make improvements and/or changes in the product(s) and/or the program(s) described in this publication at any time without notice.

Any references in this information to non-IBM Web sites are provided for convenience only and do not in any manner serve as an endorsement of those Web sites. The materials at those Web sites are not part of the materials for this IBM product and use of those Web sites is at your own risk.

IBM may use or distribute any of the information you supply in any way it believes appropriate without incurring any obligation to you.

Licensees of this program who wish to have information about it for the purpose of enabling: (i) the exchange of information between independently created programs and other programs (including this one) and (ii) the mutual use of the information which has been exchanged, should contact:

IBM Corporation
577 Airport Blvd., Suite 800
Burlingame, CA 94010
U.S.A.

Such information may be available, subject to appropriate terms and conditions, including in some cases, payment of a fee.

The licensed program described in this document and all licensed material available for it are provided by IBM under terms of the IBM Customer Agreement, IBM International Program License Agreement or any equivalent agreement between us.

Any performance data contained herein was determined in a controlled environment. Therefore, the results obtained in other operating environments may vary significantly. Some measurements may have been made on development-level systems and there is no guarantee that these measurements will be the same on generally available systems. Furthermore, some measurements may have been estimated through extrapolation. Actual results may vary. Users of this document should verify the applicable data for their specific environment.

Information concerning non-IBM products was obtained from the suppliers of those products, their published announcements or other publicly available sources. IBM has not tested those products and cannot confirm the accuracy of performance, compatibility or any other claims related to non-IBM products. Questions on the capabilities of non-IBM products should be addressed to the suppliers of those products.

All statements regarding IBM's future direction or intent are subject to change or withdrawal without notice, and represent goals and objectives only.

This information contains examples of data and reports used in daily business operations. To illustrate them as completely as possible, the examples include the names of individuals, companies, brands, and products. All of these names are fictitious and any similarity to the names and addresses used by an actual business enterprise is entirely coincidental.

COPYRIGHT LICENSE:

This information contains sample application programs in source language, which illustrate programming techniques on various operating platforms. You may copy, modify, and distribute these sample programs in any form without payment to IBM, for the purposes of developing, using, marketing or distributing application programs conforming to the application programming interface for the operating platform for which the sample programs are written. These examples have not been thoroughly tested under all conditions. IBM, therefore, cannot guarantee or imply reliability, serviceability, or function of these programs.

If you are viewing this information softcopy, the photographs and color illustrations may not appear.

Programming interface information

Programming interface information, if provided, is intended to help you create application software using this program.

General-use programming interfaces allow you to write application software that obtain the services of this program's tools.

However, this information may also contain diagnosis, modification, and tuning information. Diagnosis, modification and tuning information is provided to help you debug your application software.

Warning: Do not use this diagnosis, modification, and tuning information as a programming interface because it is subject to change.

Trademarks and service marks

The following terms are trademarks or registered trademarks of International Business Machines Corporation in the United States or other countries, or both:

AIX
AIX 5L
AS/400
Ascential
Ascential DataStage
Ascential Enterprise Integration Suite
Ascential QualityStage
Ascential RTI
Ascential Software
Ascential
CICS
DataStage
DB2
DB2 Universal Database
developerWorks
Footprint
Hiperspace
IBM
the IBM logo
ibm.com
IMS
Informix
Lotus
Lotus Notes
MQSeries
MVS
OS/390
OS/400
Passport Advantage
Redbooks
RISC System/6000
Roma
S/390
System z
Trading Partner
Tivoli

WebSphere
z/Architecture
z/OS
zSeries

Java and all Java-based trademarks are trademarks of Sun Microsystems, Inc. in the United States, other countries, or both.

Microsoft, Windows, Windows NT, and the Windows logo are trademarks of Microsoft Corporation in the United States, other countries, or both.

Intel, Intel logo, Intel Inside, Intel Inside logo, Intel Centrino, Intel Centrino logo, Celeron, Intel Xeon, Intel SpeedStep, Itanium, and Pentium are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries.

UNIX is a registered trademark of The Open Group in the United States and other countries.

Linux is a trademark of Linus Torvalds in the United States, other countries, or both.

Other company, product, or service names may be trademarks or service marks of others.

This product includes software developed by the Eclipse Project (http://www.eclipse.org/).

IBM WebSphere Transformation Extender, Version 8.1

Index

IBM ®

Printed in USA