

4.7.24 Migration Checksum Error Support Tool

The Migration Checksum Error Support Tool provides the DAAC Operations Staff with a command-line interface to set granules that failed checksumming to their pre-checksum state for retry by the migration scripts. If a granule file is identified to be missing or corrupt, the tool provides the ability to look for the backup copy of the file and update the migration database tables to migrate from the backup copy of the file instead of from the primary copy. The tool also provides the staff with the ability to set the failed granules and files to a pre-stage state to retry staging.

4.7.24.1 Using the Migration Checksum Error Support Tool

The Migration Checksum Error Support Tool is started by entering the following command from the /usr/ecs/<mode>/CUSTOM/utilities directory:

```
> EcMgChecksumError.pl --mode <mode> [--file <filepath> | --gran <list of ecs ids>] [--prestage | --backup]
```

Table 4.7.24-1 shows the parameters of the Migration Checksum Error Support Tool.

Table 4.7.24-1. Command Line Parameters of the Migration Checksum Error Support Tool

Parameter Name	Description
--mode	Mandatory. Specifies the mode of operation. It must be a valid, existing mode with a format of OPS or TS[1-4] or DEV0[1-9].
--file	Optional. Specifies the absolute path of a file containing a list of ecs ids which failed checksumming.
--gran	Optional. Specifies a list of ECS ids to process on the command line. All the ids must be enclosed in double quotes and the ids must be separated by a single white space within the double quotes.
--backup	Optional. Specifies that prior to setting the granules that failed checksumming to their pre-checksum states, look for the backup copy of the granule and update the migration database tables to migrate from the backup copy of the granule files instead of from the primary copy.
--prestage	Optional. Specifies that for all granules processed, set the granule and file to pre-stage state.
--help	Optional. Prints out the help page for the tool.

There is no required ordered sequence of the parameters. The --mode parameter is mandatory. The --file and --gran parameters must not be used together. The --prestage and --backup parameters must not be used together. When using the --help parameter, the mode need not be specified.

4.7.24.2 Migration Stage Error Support Tool Examples

Below are examples for invoking this tool:

1. **EcMgChecksumError.pl --mode TS1**

The tool will go to the DsMgError table and identify all granule files that failed checksumming (i.e., all granules where ErrorCode = "BADCHKSUM"). For each granule which failed checksumming, the granule state in DsMgGranuleState will be set to its pre-checksum state to be retried by the migration checksum script. The error in DsMgError will also be cleared.

2. **EcMgChecksumError.pl --mode TS1 --backup**

The tool will go to the DsMgError table and identify all granule files that failed checksumming. For each file processed it will first look for the backup copy and update the migration tables to migrate from the backup copy of the file instead of from the primary copy. The tool will then set the granule state to N and the file state to L, so that the granule will be retried by the migration checksum script. The error in DsMgError will also be cleared. If the media State in DsMgMediaState is a terminal state (U or C) for the media associated with the granule, the tool will reset the media State to A. The granule files with bad checksums will be cleared from the archive cache.

3. **EcMgChecksumError.pl --mode TS1 --prestage**

The tool will go to the DsMgError table and identify all granule files that failed checksumming. For each file processed the tool will set the granule state to N and the file state to L, so that the granule will be retried by the migration checksum script. The error in DsMgError will also be cleared. If the media State in DsMgMediaState is a terminal state (U or C) for the media associated with the granule, the tool will reset the media State to A. The granule files with bad checksums will be cleared from the archive cache.

4. **EcMgChecksumError.pl --mode TS1 --file /home/user/ecside.txt**

Instead of going to the DsMgError table to identify the granules that failed checksumming, the tool will process the granules in the given input file. The behavior is the same as example number one.

5. **EcMgChecksumError.pl --mode TS1 --file /home/user/ecside.txt --backup**

Instead of going to the DsMgError table to identify the granules that failed checksumming, the tool will process the granules in the given input file. The behavior is the same as example number two.

6. EcMgChecksumError.pl --mode TS1 --file /home/user/ecsids.txt --prestige

Instead of going to the DsMgError table to identify the granules that failed checksumming, the tool will process the granules in the given input file. The behavior is the same as example number three.

7. EcMgChecksumError.pl --mode TS1 --gran "1234 3456 7867"

Instead of going to the DsMgError table to identify the granules that failed checksumming, the tool will process the granules given on the command-line. The behavior is the same as example number one.

8. EcMgChecksumError.pl --mode TS1 --gran "1234 3456 7867" --backup

Instead of going to the DsMgError table to identify the granules that failed checksumming, the tool will process the granules given on the command-line. The behavior is the same as example number two.

9. EcMgChecksumError.pl --mode TS1 --gran "1234 3456 7867" --prestige

Instead of going to the DsMgError table to identify the granules that failed checksumming, the tool will process the granules given on the command-line. The behavior is the same as example number three.

10. EcMgChecksumError.pl --help

The tool will print the help page to standard out.

4.7.24.3 Required Operating Environment

The Migration Checksum Error Support Tool will run on the same host as the migration scripts.

4.7.24.4 Interfaces and Data Types

Table 4.7.24.-2 lists the supporting products that this tool depends upon in order to function properly.

Table 4.7.24-2. Interface Protocols

Product Dependency	Protocols Used	Comments
Inventory database	SQL	Via SQL server machines
Perl module	Perl+	Module to connect to the database and print out the nicely formatted help page.

4.7.24.5 Configuration File Format – EcMgOnlineArchive.properties

This tool uses the same configuration files that the migration scripts use. This configuration file contains vital details about how to connect to the Sybase server. Without this file, the tool can not run. Table 4.7.24-3 describes the configuration parameters in the EcMgOnlineArchive.properties file which are applicable to the Migration Checksum Error Support Tool.

Table 4.7.24-3. Configuration Parameters

Parameter Name	Description
DB_USER	The user name for the Sybase connection.
DB_SERVER	The name of the Sybase SQL server.
DB_PWSEED	Password seed used for connecting to the Sybase database.
DB_AIM	The AIM inventory database name.
DB_RETRY_INTERVAL	The number of seconds to wait for a database retry.
DB_RETRY_COUNT	The number of retries for a failed database execution.
SNMS_HOST	The host where the StorNext Quick Server resides.
SNMS_PORT	The port number on which the StorNext Quick Server listens.

4.7.24.6 Special Constraints

The Migration Checksum Error Support Tool should be executed only while the migration scripts are not running. Running the Migration Checksum Error Support Tool concurrently with the migration scripts may cause unexpected results since it is possible for the granule, file and media state to be altered by the migration scripts.

The Migration Checksum Error Support Tool runs only if the AIM databases are available.

It is very important to not interrupt the tool when the --prestige or --backup parameters are used. Doing so may potentially fill up the archive cache. The --prestige parameter will set the specified granules that failed checksumming to the prestige state and flush the files it previously staged out of the archive cache. The --backup parameter will set the specified granules that failed checksumming to use the backup copy, set the granules to the prestige state, and flush the copy it previously staged out of the archive cache. Interruption prior to flushing the granules will cause the granules to remain in the cache.

4.7.24.7 Outputs

Outputs will be printed to standard out. A simple message stating the number of BADCHKSUM errors processed successfully and unsuccessfully will be printed. The DAAC Operations Staff should investigate all errors processed unsuccessfully by looking in the log file.

4.7.24.8 Event and Error Messages

No error messages will be displayed on standard out. Error messages will be logged.

4.7.24.9 Logs

The tool logs messages in the /usr/ecs/<mode>/CUSTOM/logs/EcMgChecksumError.log file.

4.7.24.10 Recovery

The tool does not support automatic recovery from an interrupted run. Manual intervention will be required to recover from an interrupted run (contact Riverdale for assistance, if needed).

If the --prestage or --backup parameters were used, it is very important for the staff to not interrupt the run. Doing so could cause files in the archive cache to not be flushed from the cache. If this scenario does occur for any reason, manual intervention is required to identify the specific file(s) to flush and the StorNext administrator must flush the file(s) from the archive cache.

This page intentionally left blank.