



Bulk Downloader v.1.4.0

for the Planetary Data System

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1.1 Overview

About Bulk Downloader

The Bulk Downloader is a desktop application that provides the capability to download any number of PDS products via the PDS-Distribution (PDS-D) infrastructure.

Please send comments, change requests and bug reports to the [PDS Operator](mailto:pds_operator@jpl.nasa.gov) at pds_operator@jpl.nasa.gov.

1.2 Release Notes

Release Notes

The purpose of this section is to provide a description of a Bulk Downloader release including any impact that the new or modified capabilities will have on the Discipline Nodes or the PDS user community. A somewhat itemized list of changes for each release can be found on the [Release Changes](#) page. If viewing this document in PDF form, see the appendix for details.

Release 1.4.0

This is a maintenance of the Bulk Downloader which includes support for additional Product Servers as well as an increase in the timeout value to five minutes.

1.3 Installation

Installation

This section describes how to install the Bulk Downloader contained in the *bulk-downloader* package. The following topics can be found in this section:

- [System Requirements](#)
- [Unpacking the Bulk Downloader Package](#)

System Requirements

The Bulk Downloader was developed using Java and will run on any platform with a supported Java Runtime Environment (JRE). The tool was specifically developed under Sun Java version 1.4, but should execute correctly under versions 1.5 or 1.6.

Since the tool was developed using Sun's Java, this is the preferred Java environment for operation. The Sun Java package can be obtained from the [Sun Java](#) web site. Other Java environments are relatively compatible with Sun's Java.

Unpacking the Bulk Downloader Package

Download the *bulk-downloader* package from the [Software Download](#) web page. The binary distribution is available in identical zip or tar/gzip packages. Unpack the selected binary distribution file with one of the following commands:

```
[node: ~] unzip bulk-downloader-1.4.0-bin.zip  
or  
[node: ~] tar -xzf bulk-downloader-1.4.0-bin.tar.gz
```

Note: Depending on the platform, the native version of *tar* may produce an error when attempting to unpack the distribution file because many of the file paths are greater than 100 characters. If available, the GNU version of tar will resolve this problem. If that is not available or cannot be installed, the zipped package will work just fine in a UNIX environment.

The commands above result in the creation of the *bulk-downloader-1.4.0* directory with the following directory structure:

- **README.txt**

A README file directing the user to the available documentation for the project.

- **LICENSE.txt**

The copyright notice from the [California Institute of Technology](#) detailing the restrictions regarding the use and distribution of this software. Although the license is strictly worded, the software has been classified as Technology and Software Publicly Available (TSPA) and is available for *anyone* to download and use.

- **bin/**

This directory contains a batch and shell script for executing the tool.

- **doc/**

This document directory contains a local web site with the Bulk Downloader Guide, javadoc, unit test results and other configuration management related information. Just point your favorite browser to the *index.html* file in this directory.

- **lib/**

This directory contains the executable jar file (bulk-downloader-1.4.0.jar) containing the Bulk Downloader software.

1.4 Operation

Operation

The Bulk Downloader application allows direct connection to the PDS-D infrastructure for downloading multiple files or packages of files. The following topics can be found in this section:

- [Tool Setup](#)
- [Tool Execution](#)
- [Tool Interface](#)

Note: The command-line examples in this section have been broken into multiple lines for readability. The commands should be reassembled into a single line prior to execution.

Tool Setup

In order to execute Bulk Downloader, the user's environment must first be configured appropriately. This section describes how to setup the user environment on UNIX-based and Windows machines.

UNIX-Based Setup

This section details the environment setup for UNIX-based machines providing four different methods:

- Specify the Shell Script on the Command-Line
- Set the CLASSPATH Environment Variable
- Specify the CLASSPATH on the Command-Line
- Specify the Jar on the Command-Line

Specify the Shell Script on the Command-Line

The preferred method is to specify the shell script, *BulkDownloader*, on the command-line. Setting the *PATH* environment variable to the location of the script, enables the shell script to be executed from any location in the user's machine.

The following command demonstrates how to set the *PATH* environment variable, by appending to its current setting:

```
[node:~] setenv PATH ${PATH}:%HOME/bulk-downloader-1.4.0/bin
```

The tool can now be executed via the shell script as demonstrated in the following example:

```
[node:~] BulkDownloader <command-line arguments>
```

Set the CLASSPATH Environment Variable

An alternative method is to set the *CLASSPATH* environment variable. The following commands demonstrate how to set this variable, by appending to its current setting:

This example for setting the variable, appends the executable jar file found in the *lib* directory:

```
[node:~] setenv CLASSPATH ${CLASSPATH}:\
$HOME/bulk-downloader-1.4.0/lib/bulk-downloader-1.4.0.jar

[node:~] echo $CLASSPATH
```

The second command in the example above, will display the current value of the *CLASSPATH* variable. Please note that the value for the *CLASSPATH* variable may not contain space characters. Once the *CLASSPATH* is set, the tool can be executed with the following command:

```
[node:~] java gov.nasa.pds.bulkdownloader.BulkDownloader <command-line arguments>
```

Specify the CLASSPATH on the Command-Line

An alternative method to setting the *CLASSPATH* variable is to specify the *java.ext.dirs* Java property on the command-line when running the tool each time. This is done by passing the property via the Java "-D" flag as demonstrated in the following example:

```
[node:~] java -Djava.ext.dirs=$HOME/bulk-downloader-1.4.0/lib \
gov.nasa.pds.bulkdownloader.BulkDownloader <command-line arguments>
```

Specify the Jar on the Command-Line

Another alternative method is to specify the executable jar file on the command-line when running the tool each time. This is done by passing the jar file specification via the Java "-jar" flag as demonstrated in the following example:

```
[node:~] java -jar \  
$HOME/bulk-downloader-1.4.0/lib/bulk-downloader-1.4.0.jar <command-line arguments>
```

Windows Setup

This section details the environment setup for Windows machines providing four different methods:

- Specify the Batch File on the Command-Line
- Set the CLASSPATH Environment Variable
- Specify the CLASSPATH on the Command-Line
- Specify the Jar on the Command-Line

Specify the Batch File on the Command-Line

The preferred method is to specify the batch file, *BulkDownloader.bat*, on the command-line. Setting the *PATH* environment variable to the location of the file, enables the batch to be executed from any location in the user's machine.

The following command demonstrates how to set the *PATH* environment variable, by appending to its current setting:

```
C:\> set PATH = %PATH%;C:\bulk-downloader-1.4.0\bin
```

The tool can now be executed via the batch file as demonstrated in the following example:

```
C:\> BulkDownloader <command-line arguments>
```

Set the CLASSPATH Environment Variable

An alternative method is to set the *CLASSPATH* environment variable. The following commands demonstrate how to set this variable, by appending to its current setting:

This example for setting the variable, appends the executable jar file found in the *lib* directory:

```
C:\> set CLASSPATH=%CLASSPATH%;\
c:\bulk-downloader-1.4.0\lib\bulk-downloader-1.4.0.jar

C:\> echo %CLASSPATH%
```

The second command in the example above, will display the current value of the *CLASSPATH* variable. Please note that the value for the *CLASSPATH* variable may not contain space characters. Once the *CLASSPATH* is set, the tool can be executed with the following command:

```
C:\> java gov.nasa.pds.bulkdownloader.BulkDownloader <command-line arguments>
```

Another way of setting the *CLASSPATH* is via the [Windows Control Panel](#) . If viewing this document in PDF form, see the appendix for details on this method.

Specify the CLASSPATH on the Command-Line

An alternative method to setting the *CLASSPATH* variable is to specify the *java.ext.dirs* Java property on the command-line when running the tool each time. This is done by passing the property via the Java "-D" flag as demonstrated in the following example:

```
C:\> java -Djava.ext.dirs=c:\bulk-downloader-1.4.0\lib \
gov.nasa.pds.bulkdownloader.BulkDownloader <command-line arguments>
```

Specify the Jar on the Command-Line

Another alternative method is to specify the executable jar file on the command-line when running the tool each time. This is done by passing the jar file specification via the Java "-jar" flag as demonstrated in the following example:

```
C:\> java -jar \
c:\bulk-downloader-1.4.0\lib\bulk-downloader-1.4.0.jar <command-line arguments>
```

Tool Execution

This section describes how to run Bulk Downloader.

Command-Line Options

The Bulk Downloader allows one command-line argument. That argument may be a file specification for a query list file. See the [Query List File Format](#) sub-section below for details on the file format.

Running Bulk Downloader

The Bulk Downloader can be launched as described in the [Tool Setup](#) section. The following example uses the batch/shell script and passes in a query list file specification argument:

```
[node:~] BulkDownloader example ql
```

If the Bulk Downloader is launched with a query list file, as in the example above, the *Query List* tab in the application should be populated. If the *Query List* tab is empty, the user will need to populate it by opening a query list file from their desktop or by manually adding entries using the *Add Row* menu item under the *Edit* menu. The user can then edit the new row. The Product Server and Return Type are selected from a drop down box. The Online File Specification Name is entered manually by the user.

To start the download, select the *Start Download* from the *Edit* menu to start downloading the products. The *Download Status* tab is displayed and a dialog window pops up giving you the opportunity to change the directory to receive the product downloads. After making your choice the download begins. You can select the *Run Log* tab to view the status of all product downloads. If a connection is dropped, the download will retry 4 times. If any errors occur, the product download is skipped and the application continues with the next download.

As each product is downloaded, the checkbox in the *Query List* tab is checked. If any query fails downloading, the box is not checked. To repeat downloading a product, uncheck its entry.

The user can use the *Save File* menu item from the *File* menu to save the query list. If there are problems downloading some of the products, you can delete the successful downloads from the query list and save the remaining query list to try later.

Query List File Format

The following is an example of a Query List file:

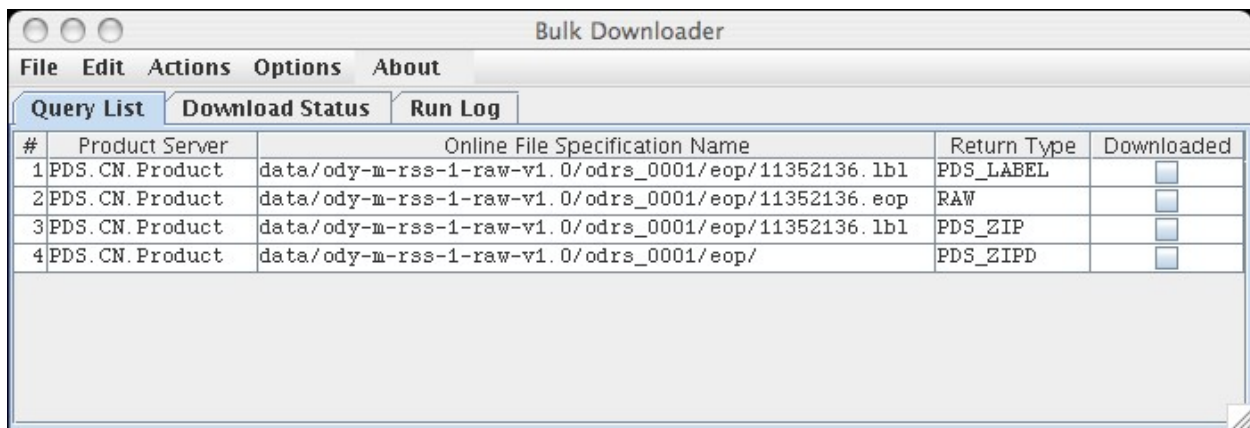
```
BulkDownloader Query List v1.2
object=PDS.CN.Product&keywordQuery=OFSN+%3D+data/ody-m-rss-1-raw-v1.0/odrs_0001/eop/ \
11352136.lbl+AND+RT+%3D+PDS_LABEL
object=PDS.CN.Product&keywordQuery=OFSN+%3D+data/ody-m-rss-1-raw-v1.0/odrs_0001/eop/ \
11352136.eop+AND+RT+%3D+RAW
object=PDS.CN.Product&keywordQuery=OFSN+%3D+data/ody-m-rss-1-raw-v1.0/odrs_0001/eop/ \
```

```
11352136.1b1+AND+RT+%3D+PDS_ZIP
object=PDS.CN.Product&keywordQuery=OFSN+%3D+data/ody-m-rss-1-raw-v1.0/odrs_0001/eop/ \
+AND+RT+%3D+PDS_ZIPD
```

The first line identifies the file as a *.q/* file. The version identifier is specific to the file format and not the version of the application. The following lines specify the product server, online file specification name and the return type for products to be downloaded.

Tool Interface

The Graphical User Interface (GUI) of Bulk Downloader allows the user specify and manage product downloads. After launching the tool with the method described in the [Tool Execution](#) section above, the following window should appear on the user's desktop:



The main window also consists of the following menus:

- File
 - New
Clears the *Query List*.
 - Open File
Clears the *Query List* and loads a new set of product specifications from a file on the user's desktop.
 - Save File
Saves the list of queries in the *Query List* to a file.
 - Exit
Exits the application.
- Edit

- Add Row
Adds a blank row to the bottom of the *Query List*.
- Delete Row
Deletes the selected row from the *Query List*.
- Actions
 - Start Download
Starts downloading the products specified in the *Query List*.
 - Stop Download
Terminates the download of the current product and skips the remaining products in the *Query List*.
 - Pause Download
Pauses the current product download.
 - Resume Download
Continues the current product download after a pause was initiated.
 - Skip Download
Skips the current product download and continues with the remaining products in the *Query List*.
- Options
 - Download Dir
Allows the user to specify the download destination directory.
- About
This menu option displays a message dialog detailing the current version of the tool along with the copyright statement.

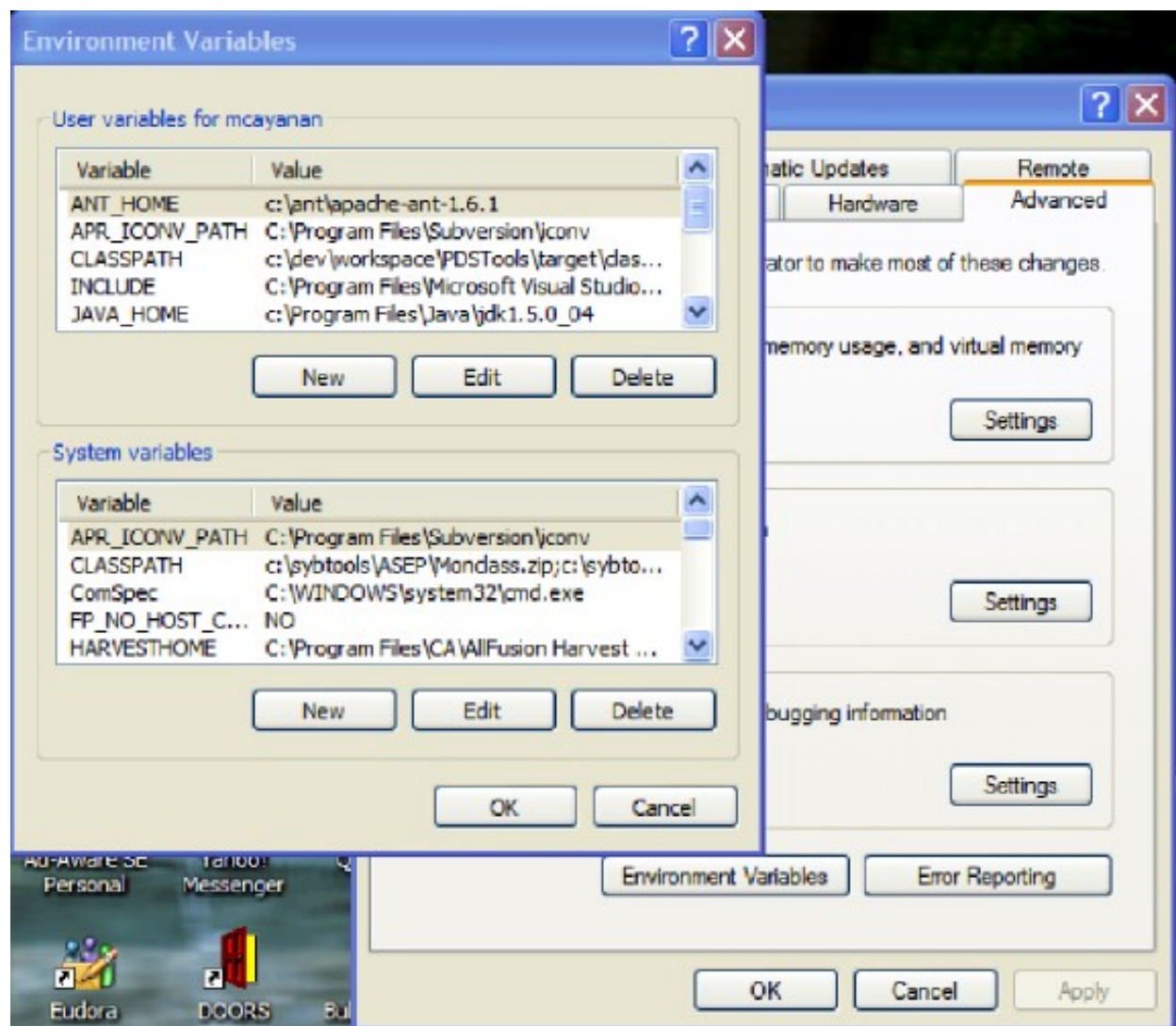
Other controls include the *Query List* and *Run Log* tabs contain table data that can be sorted by clicking on the column title. The first column can be used to return the sort to the original order.

1.5 Appendix A - Using the Windows Control Panel

Windows Environment Setup

For those attempting to run the Validation Tool in a Windows environment, here are the steps for setting the CLASSPATH environment variable via the control panel:

- Right-click on My Computer on your desktop and select the Properties menu item.
- Navigate to the Advanced tab and select the Environment Variables button. At this point, you should now see a window like the one below:



- Highlight the *CLASSPATH* variable in the User Variables list and select the Edit button.
- Append to the current contents of the variable, the path(s) to the jar files that came with the *product-tools* package. See the *Windows Setup* section for actual jar file paths for the current release. Separate each path with a semicolon.
- Select the *OK* button when you are finished editing the *CLASSPATH* variable, then select the *OK* button at the Environment Variables window to apply the changes.

Note: If you already have a DOS window open, you will need to close and re-open the window for the *CLASSPATH* changes to take effect.