

Bagger GUI User Guide: How to Create and Validate Bags with Bagger

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Bagger version 2.8.1



NC DEPARTMENT OF
NATURAL AND CULTURAL RESOURCES

Contents

| | |
|--|-------------------------------------|
| Overview | 2 |
| Before You Begin | 2 |
| <i>Special Note on Non-Windows Operating Systems</i> | <i>2</i> |
| <i>Special Note on Administrator Rights.....</i> | <i>2</i> |
| <i>Important Considerations Before Bagging Records.....</i> | <i>2</i> |
| 1. Downloading and Installing Bagger | 2 |
| 1.1 <i>Download Files from GitHub.....</i> | <i>3</i> |
| 1.2 <i>Extract Zipped Files.....</i> | <i>4</i> |
| 2. Creating a Bag | 4 |
| 2.1 <i>Open Bagger</i> | <i>4</i> |
| 2.2 <i>Create a Bag</i> | <i>5</i> |
| Creating a New Bag | 5 |
| Adding “Payload” to Bag | 9 |
| Saving the Bag | 11 |
| Record the Size of the Saved Bag | 13 |
| 3. Validating a Bag | Error! Bookmark not defined. |
| 3.1 <i>Open Existing Bag</i> | <i>14</i> |
| 3.2 <i>Validate Bag</i> | <i>15</i> |
| 3.3 <i>Check results</i> | <i>15</i> |
| 3.4 <i>Close Bagger</i> | <i>16</i> |
| Appendix: Resolving a Java Error | 17 |
| <i>Confirm whether JRE Is Installed</i> | <i>17</i> |
| <i>Download and Install JRE if It Is Not Already Installed</i> | <i>19</i> |
| <i>Configure JRE Environmental Variable</i> | <i>19</i> |

Overview

Bagger is a Library of Congress tool for bagging files into the BagIt specification structure. It is a graphical user interface (GUI) designed by Library of Congress to be a user-friendly alternative to the command-line BagIt application. The official download of the Bagger tool, as well as more information on the BagIt specification, can be found on the Library of Congress GitHub page at <https://github.com/LibraryOfCongress>.

The structure of the bags created in this guide conform to the BagIt specification 0.97.

Bag structure created using this guide:

```
<base directory>/
|  bag-info.txt
|  bagit.txt
|  manifest-sha256.txt
|  tagmanifest-sha256.txt
\--- data/
     |  [payload files]
```

Before You Begin

Special Note on Non-Windows Operating Systems

This manual presumes that you are moving material within a Windows environment (that the original machine and bag destination—probably a hard drive—are both running on Windows operating systems). If materials originate on a Mac OS computer or computer running another non-Windows operating system, please contact the staff of the Digital Services Section for further assistance.

Special Note on Administrator Rights

The “Downloading and Installing Bagger” section of this manual presumes that the reader has administrative rights (i.e., is able to download and install software) on the machine they are working on. For agencies working within the North Carolina Department of Information Technology system, that is usually *not* the case. If you are working within the DIT network, you will need to contact your department’s IT department or put in an IT Service Desk ticket to have Bagger installed.

Important Considerations Before Bagging Records

Before you begin the file-bagging process, please review our guidance document on transfer of electronic records to the State Archives, available here:

Digital File Transfer Guidelines

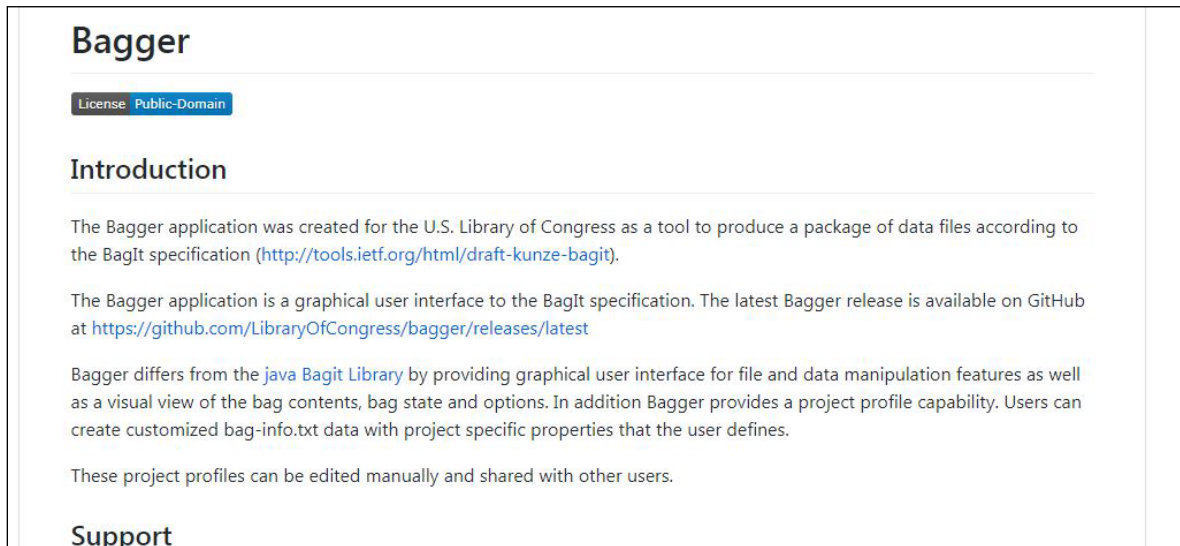
<https://archives.ncdcr.gov/government/digital-records/north-carolina-digital-repository/digital-file-transfer-guidelines>

1. Downloading and Installing Bagger

As noted above, only users who have administrative rights on their machine will be able to install Bagger themselves. If you are on the North Carolina Department of Information Technology system, or if you are prompted for admin credentials and are thus unable to install Bagger, contact your IT support team.

1.1 Download Files from GitHub

Download the most recent version of Bagger by visiting the Bagger GitHub page at <https://github.com/LibraryOfCongress/bagger>. The page has a link to the latest available release at <https://github.com/LibraryOfCongress/bagger/releases/latest>.



Bagger

License: Public-Domain

Introduction

The Bagger application was created for the U.S. Library of Congress as a tool to produce a package of data files according to the BagIt specification (<http://tools.ietf.org/html/draft-kunze-bagit>).

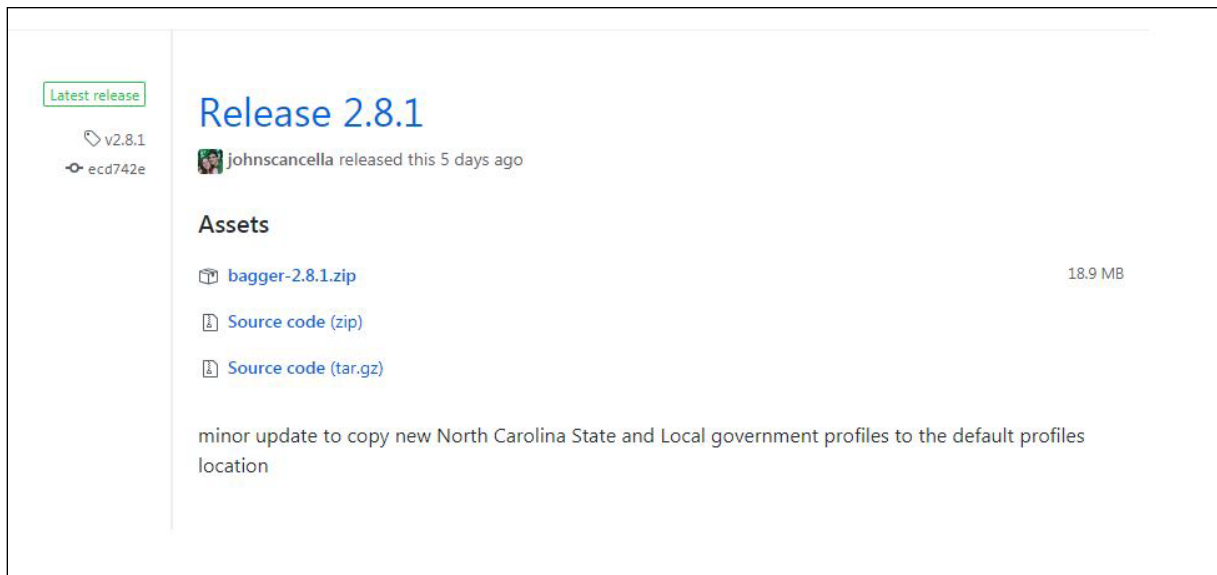
The Bagger application is a graphical user interface to the BagIt specification. The latest Bagger release is available on GitHub at <https://github.com/LibraryOfCongress/bagger/releases/latest>

Bagger differs from the [java BagIt Library](#) by providing graphical user interface for file and data manipulation features as well as a visual view of the bag contents, bag state and options. In addition Bagger provides a project profile capability. Users can create customized bag-info.txt data with project specific properties that the user defines.

These project profiles can be edited manually and shared with other users.

Support

After navigating to the most recent version, click on the **[version].zip** link. At the time this guide was written, Bagger 2.8.1 was the most recent version.






Latest release

v2.8.1
ecd742e

Release 2.8.1

johnscancella released this 5 days ago

Assets

| | |
|--|---------|
|  bagger-2.8.1.zip | 18.9 MB |
|  Source code (zip) | |
|  Source code (tar.gz) | |

minor update to copy new North Carolina State and Local government profiles to the default profiles location

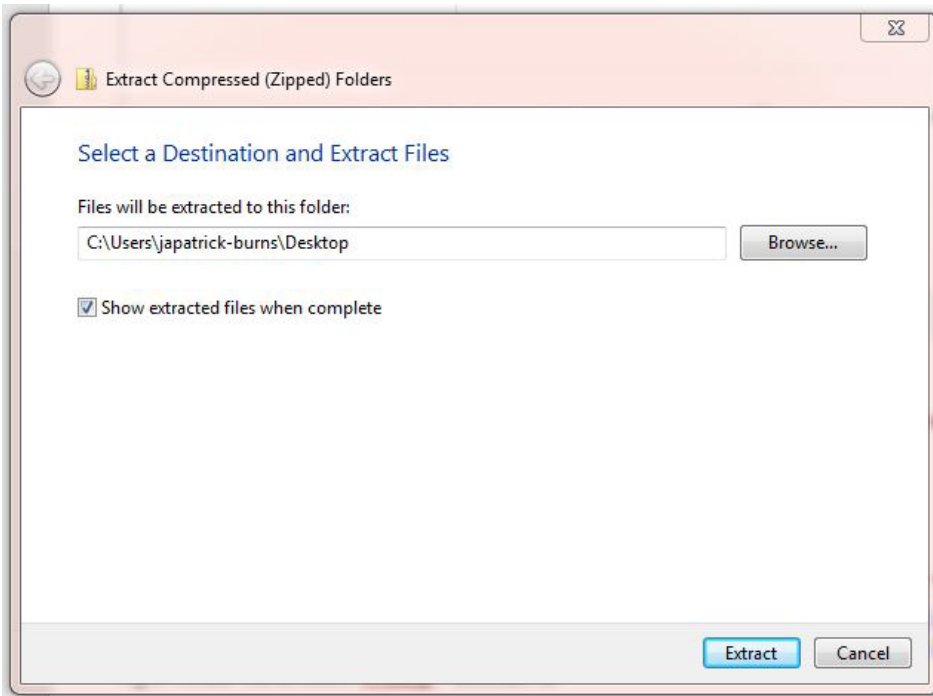
The download will begin and show up in your downloads bar. You can save the zip file wherever you like, but note the location. Your computer will likely automatically save it in a download folder.



bagger-2.8.1.zip

1.2 Extract Zipped Files

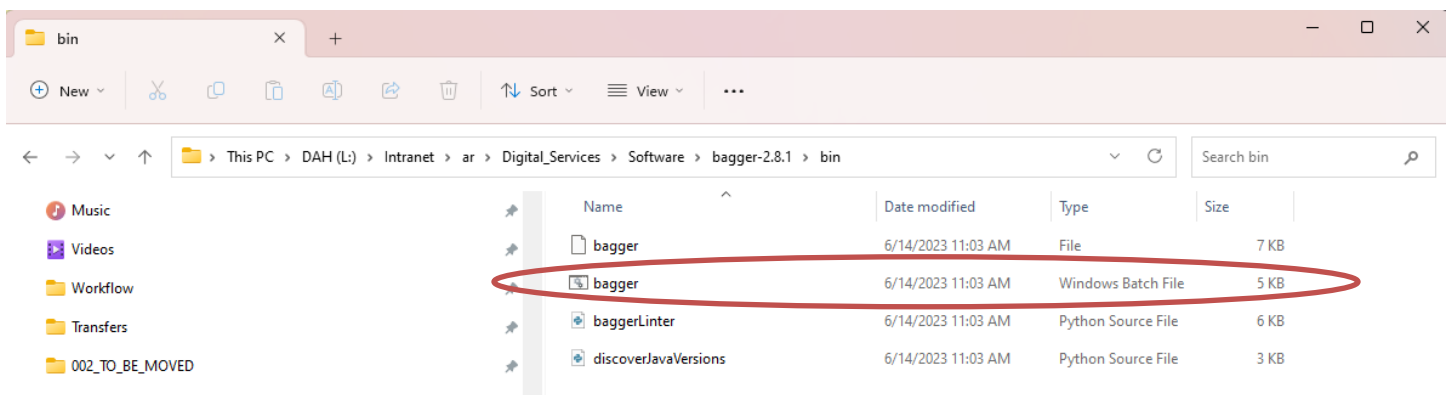
If you are running a Windows system that supports reading zipped files, you can use the Windows default zip reader. In your Downloads folder, select the zip file **bagger-2.8.1.zip** and right click. Select **Extract all...**, then choose a destination folder, such as your C: drive or Desktop. Click **Extract**. (You may also choose to use 7-Zip or another file archiver utility.)



2. Creating a Bag

2.1 Open Bagger

Navigate to where you have saved the unzipped folder **bagger-2.8.1** (or whichever version of bagger you have installed), open the **bin** folder, and double click on the Windows Batch File **bagger.bat**.



A black terminal window will first appear and then, a moment later, this image:



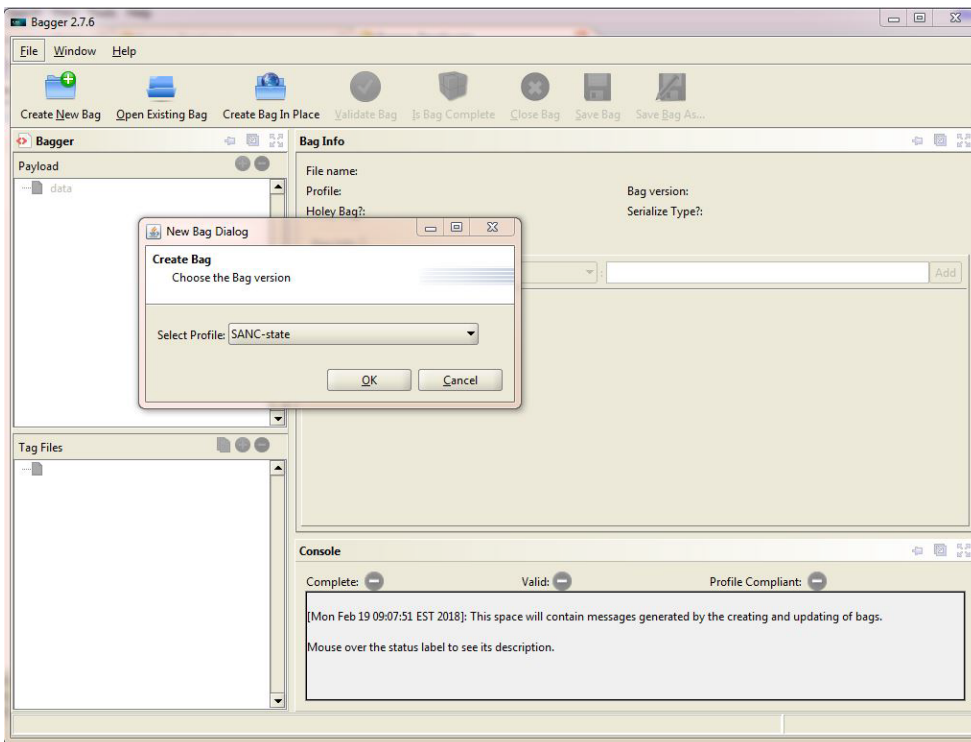
If you receive an error message related to Java, please skip down to the [Appendix on resolving Java errors](#).

2.2 Create a Bag

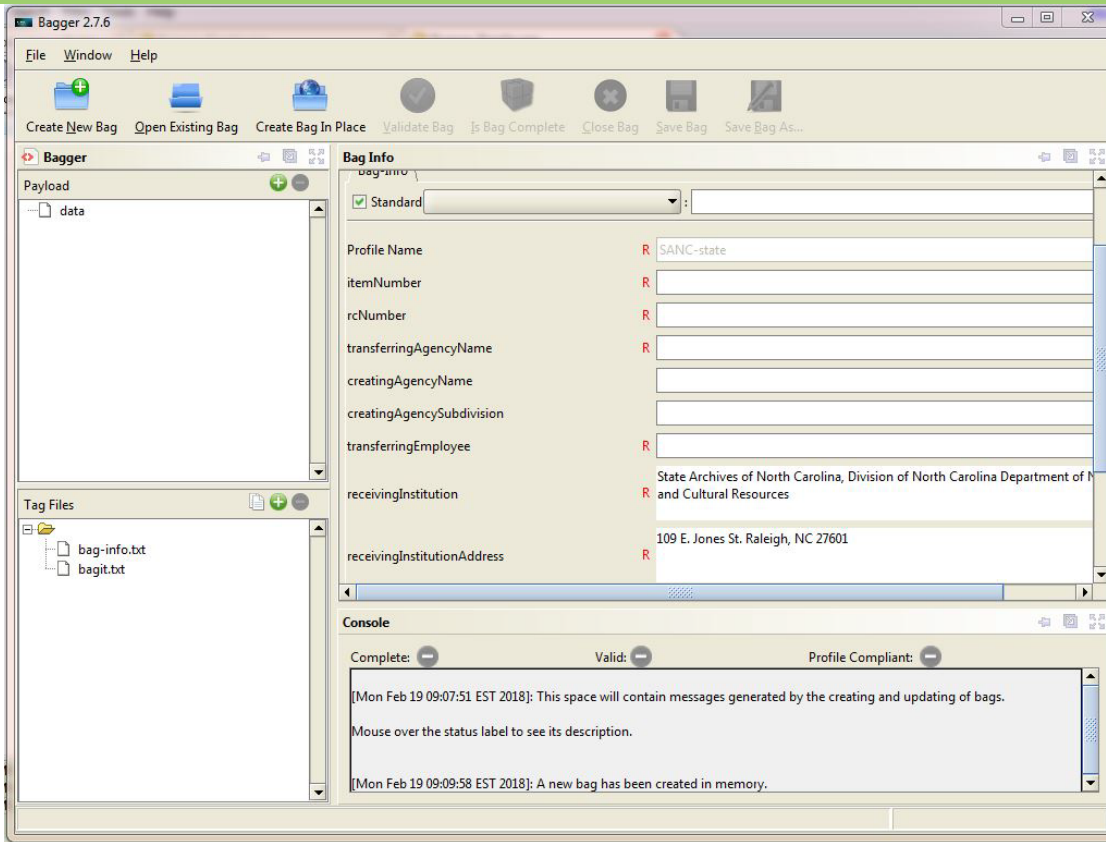
Setting Up a New Bag

On the main screen of the Bagger Application, click **Create New Bag**.

A small dialog box will come up that asks you to select a profile. Select SANC-state for state agencies or SANC-local for local government agencies and municipalities. Click **OK**.



The pane on the right side of the interface shows a list of metadata to fill out. Fields marked with a red “R” are required.



Some of the metadata fields in the Bagger profile will be blank by default. See below for a list of the default values:

State Agency Records

| Field | Required? | Default Value |
|--|-----------|---|
| Item Number | Yes | |
| RC Number | Yes | |
| Transferring Agency Name | Yes | |
| Creating Agency Name | No | |
| Creating Agency Subdivision | No | |
| Transferring Employee | Yes | |
| Receiving Institution | Yes | State Archives of North Carolina, Division of North Carolina Department of Natural and Cultural Resources |
| Receiving Institution Address | Yes | 109 E. Jones St. Raleigh, NC 27601 |
| Dates of Records (YYYY-MM-DD) - (YYYY-MM-DD) | Yes | |

| Field | Required? | Default Value |
|-----------------------------|-----------|--|
| Digital Originality | Yes | Options: ??? Original (Born Digital) Original Surrogate (Digitized/Migrated & Physical/Original Destroyed) Surrogate (Digitized/Migrated & Physical/Original Kept) Not-Yet-Known |
| Classification (for Access) | Yes | Options: ??? Open/Public Open/Redacted Contains Some Confidential Records Confidential/Sensitive Not-Yet-Known |
| Digital Content Structure | Yes | Options: ??? Compound (Multiple Types) Word Processing Plain Text Text With Markup Spreadsheet Presentation Database AUDIO Audio: Mono Audio: Stereo VIDEO Video: High Quality/Professional Video: Medium Quality/Amateur Video: Animation/Interactive IMAGE Image: Raster (for Tiff,PNG,Jpeg,jpeg2000,etc.) Image: Vector/CAD Image: Raw/Native Image: Geospatial Raster Image: Geospatial Vector Email Web Content: Site/Page/SocialMedia/Blog/etc. Software: Game/Application/Virtual Machine/Code/etc. Disk Image/Forensic Image Archive: Zip/Tar/Arc/Warc/SIRF/VEO/etc. Encrypted (Key-Available/Accessible-Content) Encrypted (No-Key/Inaccessible-Content)) Not-Yet-Known |
| Notes | No | |

Local Records

| Field | Required? | Default Value |
|--|-----------|--|
| Records Series Title | Yes | |
| Transferring County Name | Yes | |
| Creating Agency Name | Yes | |
| Creating Agency Subdivision | No | |
| Transferring Employee | Yes | |
| Receiving Institution | Yes | State Archives of North Carolina, Division of North Carolina Department of Natural and Cultural Resources |
| Receiving Institution Address | Yes | 109 E. Jones St. Raleigh, NC 27601 |
| Dates of Records (YYYY-MM-DD) - (YYYY-MM-DD) | Yes | |
| Digital Originality | Yes | Options: ??? Original (Born Digital) Original Surrogate (Digitized/Migrated & Physical/Original Destroyed) Surrogate (Digitized/Migrated & Physical/Original Kept) Not-Yet-Known |
| Classification (for Access) | Yes | Options: ??? Open/Public Open/Redacted Contains Some Confidential Records Confidential/Sensitive Not-Yet-Known |

| Field | Required? | Default Value |
|---------------------------|-----------|--|
| Digital Content Structure | Yes | Options: ??? Compound (Multiple Types) Word Processing Plain Text Text With Markup Spreadsheet Presentation Database AUDIO Audio: Mono Audio: Stereo VIDEO Video: High Quality/Professional Video: Medium Quality/Amateur Video: Animation/Interactive IMAGE Image: Raster (for Tiff,PNG,Jpeg,jpeg2000,etc.) Image: Vector/CAD Image: Raw/Native Image: Geospatial Raster Image: Geospatial Vector Email Web Content: Site/Page/SocialMedia/Blog/etc. Software: Game/Application/Virtual Machine/Code/etc. Disk Image/Forensic Image Archive: Zip/Tar/Arc/Warc/SIRF/VEO/etc. Encrypted (Key-Available/Accessible-Content) Encrypted (No-Key/Inaccessible-Content)) Not-Yet-Known |
| Notes | No | |

Adding “Payload” to Bag

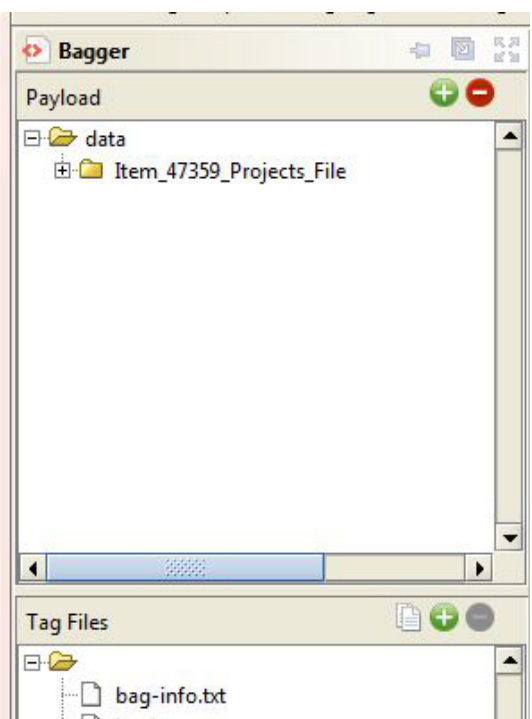
There is nothing saved to your bag yet. To add a folder(s)/file(s) (i.e., what Bagger calls the “payload”), either click on the green **Add Data** button or go to **File > Add Data...**



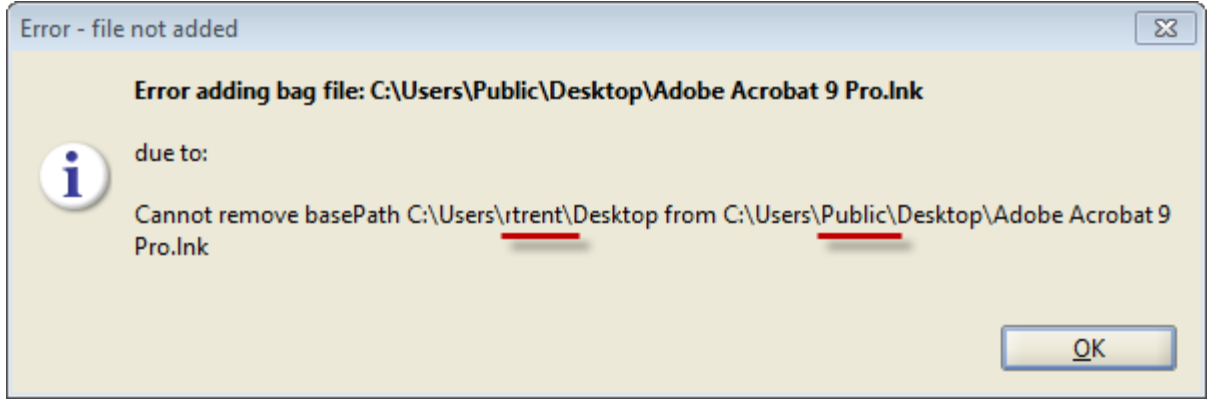
A new dialog box will appear. Select the folder(s)/file(s) you would like to be bagged. You may select as many folders as you like from as many places as you like.

Select the **Open** button to place your selections in the bag. (Note: When you click **Open**, nothing happens to the actual files. You are simply preparing a list, and you may still add and remove files freely at this stage. You are not committing yourself to anything.)

The new files will appear in the Payload section on the left:



If you are on a Windows 7 computer, you may receive an error like the following:

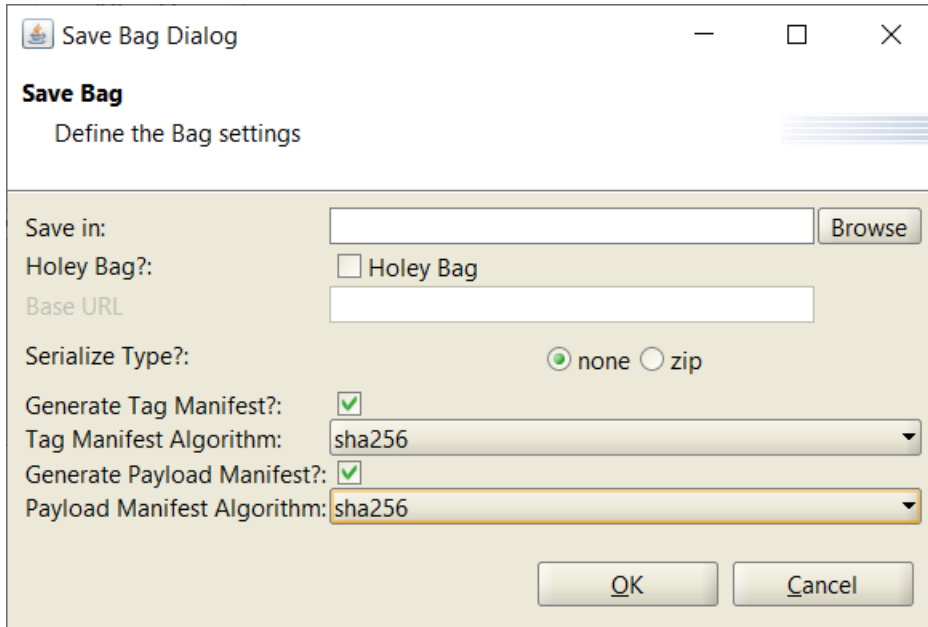


If you receive an error like this, note the exact file paths that it suggests. In the error above, the user asked Bagger to retrieve a file from inside C:\Users\rtrent\Desktop and bagger indicated that it was unable to retrieve the file because its actual path is C:\Users\Public\Desktop\Adobe Acrobat 9 Pro.Ink. In this example, the user needed to navigate to C:\Users\Public\Desktop\Adobe Acrobat 9 Pro.Ink to add the Adobe Acrobat 9 Pro.Ink file. These errors occur because of the way users are handled in Windows 7. A file may be visible to several users but is owned by only one user.

Saving the Bag

Click on the **Save Bag As...** button.

Make sure that the **tag manifest** and **payload manifest** boxes are checked and set to **sha256**:



Click the **Browse** button and browse to the desired folder on your device.. In the **File Name** box, type in the name of the bag. This will be the title of the folder that holds the bag. Note: please use the **Browse** button to navigate to the correct location and then type in the bag name, rather than simply typing the path into the **Save in** field, as Bagger will encounter an error and be unable to save the bag.

Follow these rules when naming a bag:

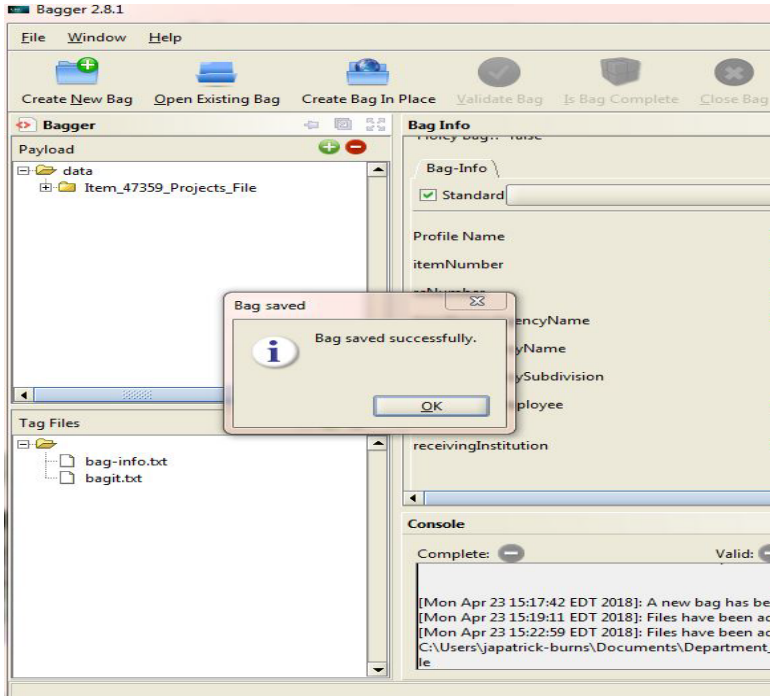
- Always end the bag name with **_bag**
- **For State Agencies**, begin the bag name with the item number of the transfer
- **For Local Agencies**, begin the bag name with the record type (**Minutes_bag**; **Maps_bag**)
- If the bag contains confidential information, include the word **CONFIDENTIAL** in the name
- Replace all empty spaces with underscores (**Easley_Exec_Orders** instead of **Easley Exec Orders**)
- Include the date the bag was made (today's date)
- Make the name of the bag meaningful, so that if you look at the bag another date, you can easily discern the nature of its contents without having to open it
- **Examples bag name:** 3989_lankford_documents_20120214_bag

Click **OK** to begin saving the bag. After you click **OK**, Bagger will first checksum the original files, then copy the files onto the hard drive.

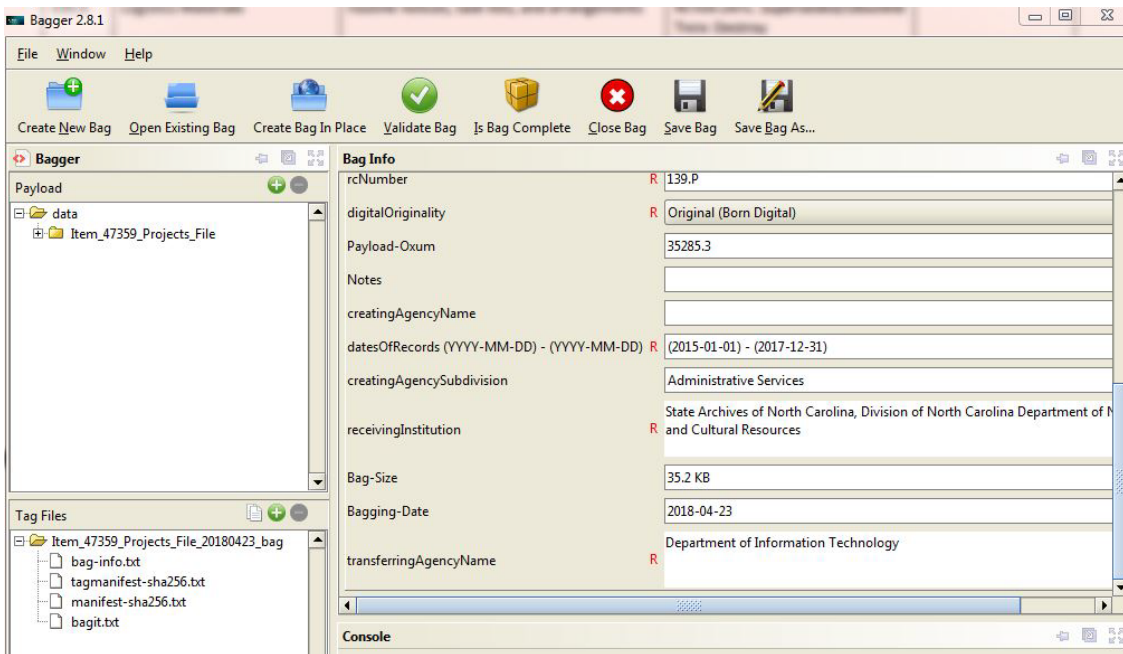
NOTE: After you click **OK** to save the bag, if you hover your cursor over Bagger, the cursor will appear busy. This will continue until Bagger has finished checksumming the files. Once Bagger begins to copy the files, a progress bar will

appear, and the cursor will return to normal. Do not worry if Bagger appears to hang for a long time. It is simply checksumming the files.

Once the bag has been saved, a popup window will appear:

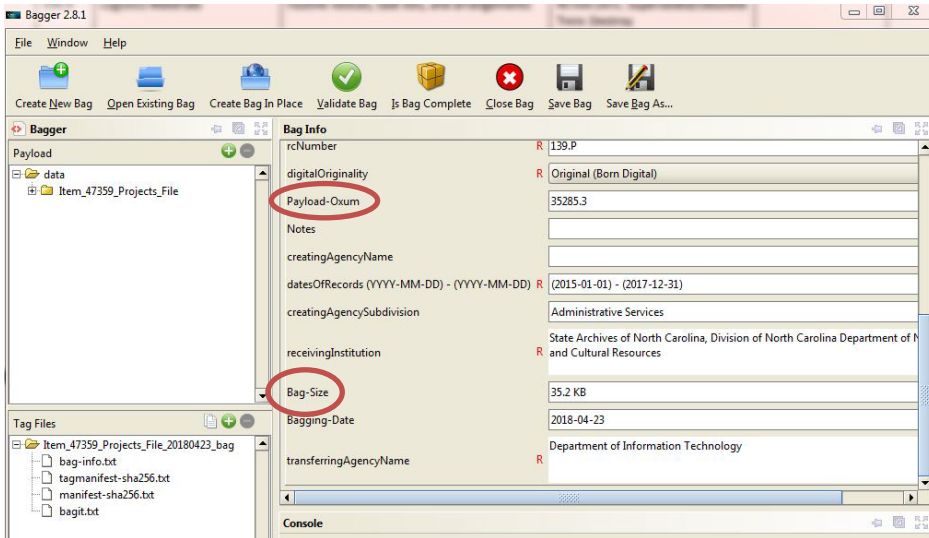


Click **OK** on the popup window. The popup window will disappear, and the main window will display information about the new bag:



Record the Size of the Saved Bag

- On this screen, you will want to note two pieces of information for the “Bag Info” section of the transfer form appropriate for your use: the size of the bag, which can be found in Bagger as **“Bag-Size”**
- the number of files in the bag’s payload, which can be found in Bagger in the numerals after the period in the **“Payload-Oxum.”** For example, in the screen copied below, the payload-oxum was 35285.3. Thus, there were 3 files in this bag.



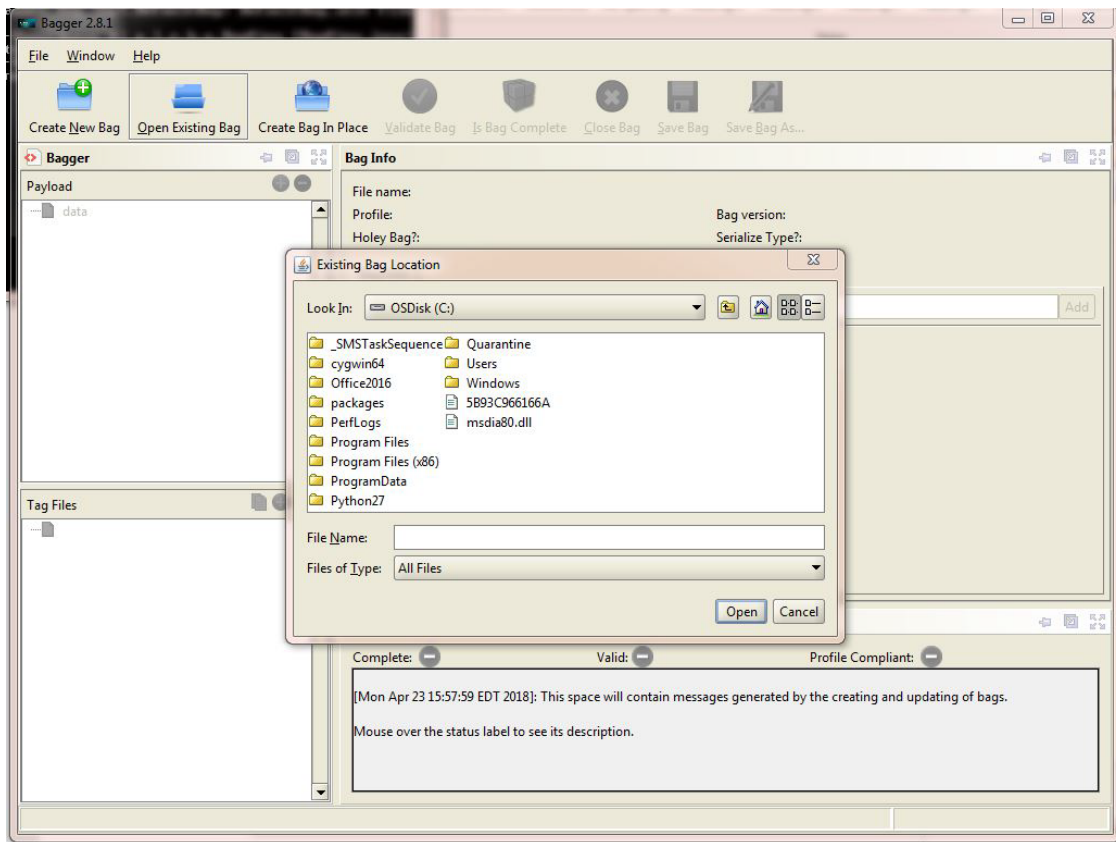
| Bag Name | Number of Files | Total File Size |
|---------------------------------|-----------------|-----------------|
| Item_47359_Projects_File_Bag | 3 | 32KB |
| | | |
| | | |
| | | |
| Totals for the entire transfer: | 3 | 32KB |

Validating a Bag

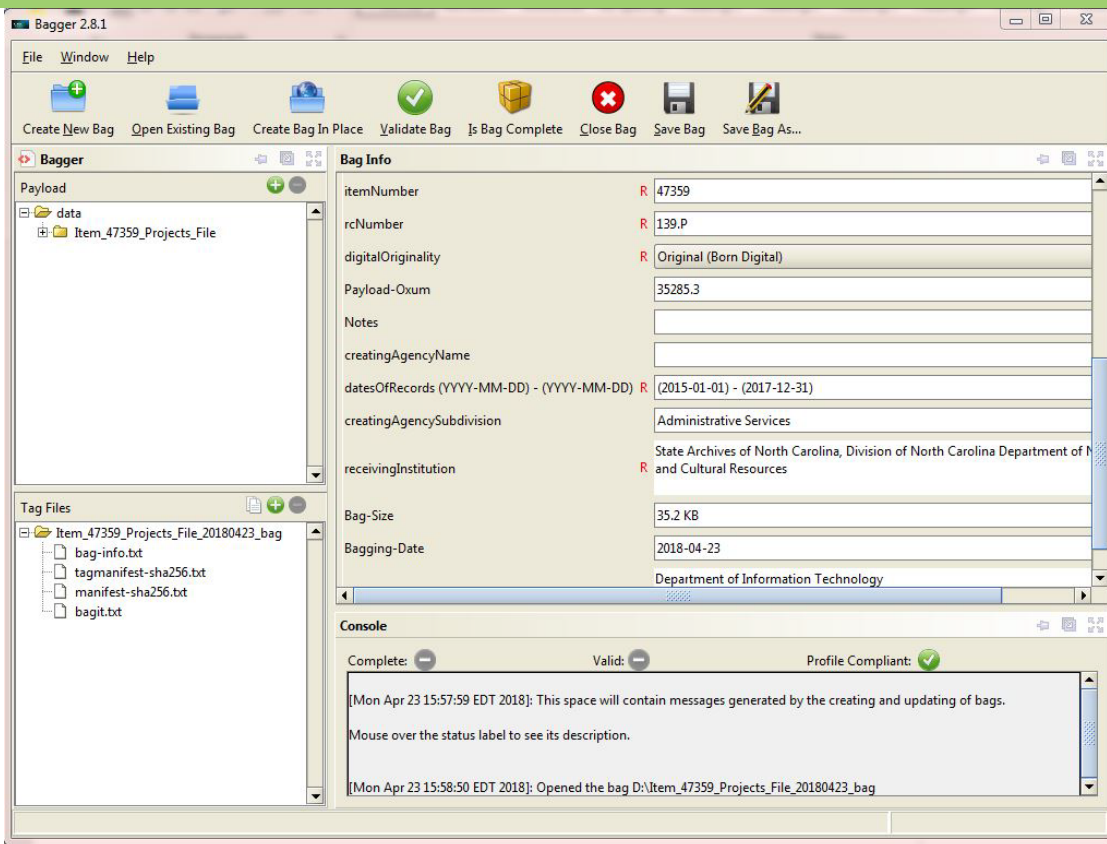
Immediately after creating a bag, it is a good idea to validate it to authenticate that the bag was successfully created. See section 3.2 for more details.

3.1 Open Existing Bag

On the main Bagger screen, click **Open Existing Bag**. A popup window will appear:



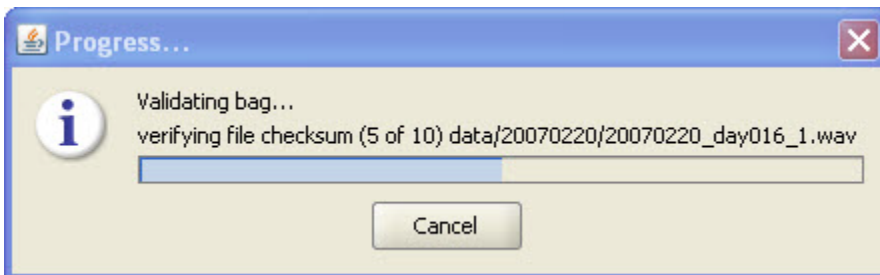
Navigate to the bag you would like to validate and click **Open**. The bag will appear in the main screen:



3.2 Validate Bag

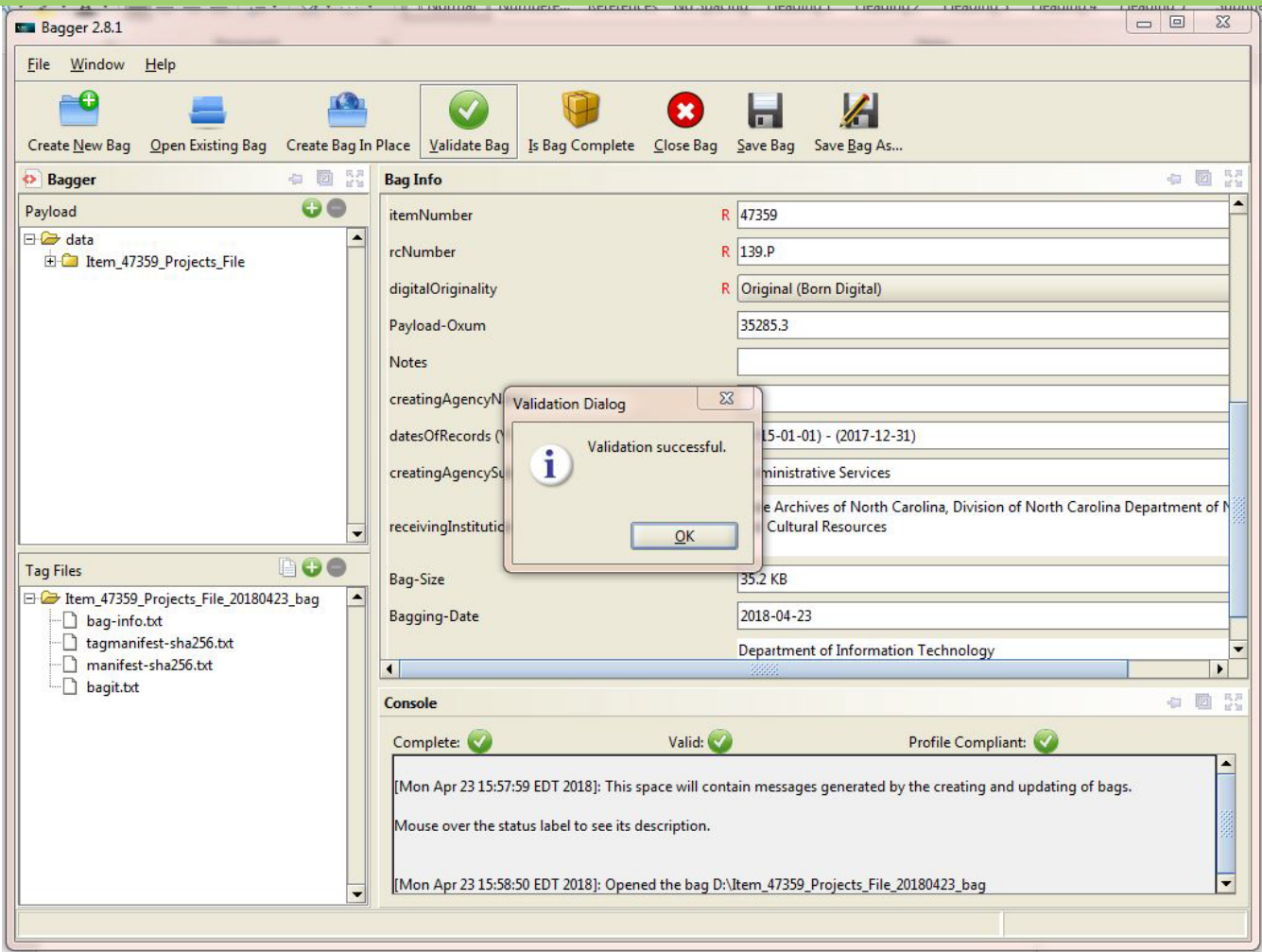
Click **Validate Bag**. Bagger will immediately start validating the bag.

A popup window may appear showing Bagger's progress:



3.3 Check results

Once the validation is complete, a popup window will appear that says "**Validation successful.**" Click OK.

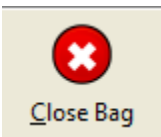


Note that the bag now has green check marks indicating that it is complete and valid.

In the event that the bag does not validate, click **Validate Bag** once again. If the validation is still unsuccessful, please return to [2.2 Create a Bag](#) to restart the process.

3.4 Close Bagger

After validating the bag, you can close bagger using the  in the top right corner or by clicking **Close Bag**:

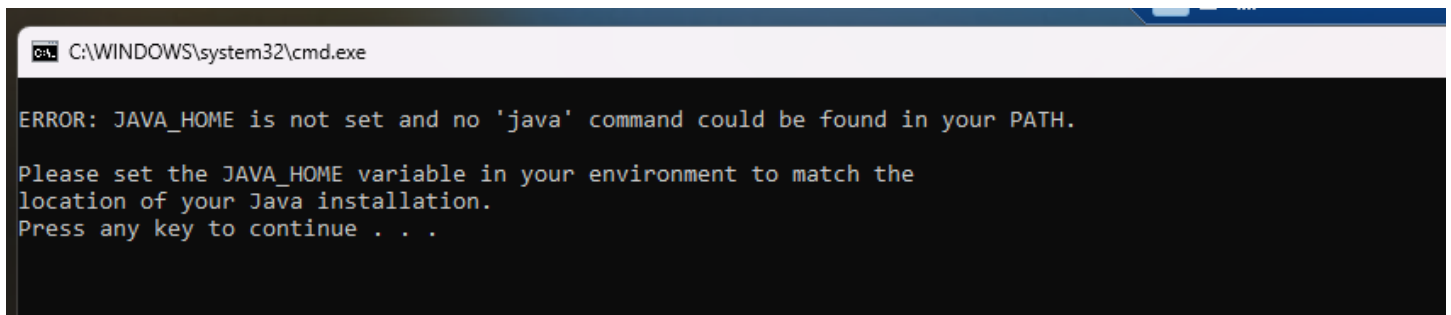


If Bagger asks you if you would like to save the bag, say no. (You have just finished saving the bag and do not need to re-save it.)

Note: Do not delete the bags you have prepared for transfer until a representative from the State Archives confirms that the ingest process is complete.

Appendix: Resolving a Java Error

Bagger requires Java Runtime Environment (JRE) be installed and accessible by Bagger. JRE is widely used, and most computers will already have a copy. If the computer you are working with (a) does not have a copy or (b) the computer cannot correctly locate its copy, you will receive an error when you attempt to open Bagger. The error may look like this:



```
C:\WINDOWS\system32\cmd.exe

ERROR: JAVA_HOME is not set and no 'java' command could be found in your PATH.

Please set the JAVA_HOME variable in your environment to match the
location of your Java installation.
Press any key to continue . . .
```



If you receive a Java error, you will need to follow these steps with administrator rights to your computer. If you do not have administrator rights, your computer will refuse to allow you to make the following changes. If you are not sure if you have administrator rights, try the following steps and stop if you receive a message indicating that you need administrator rights to proceed.

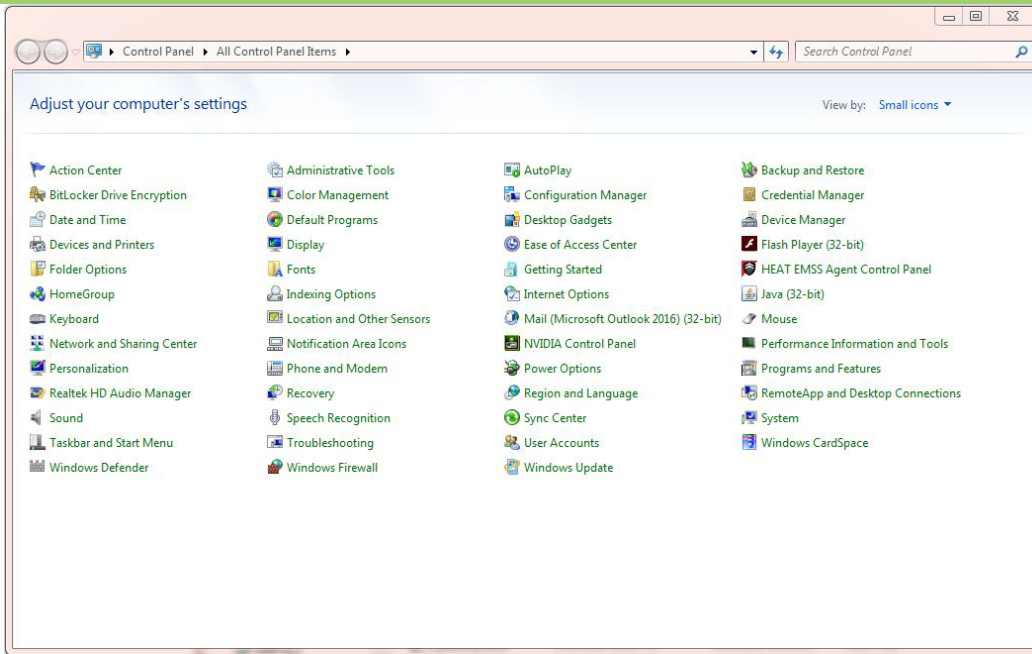
Confirm whether JRE Is Installed

You can check your computer to see if you have a JRE installed by navigating to the Control Panel.

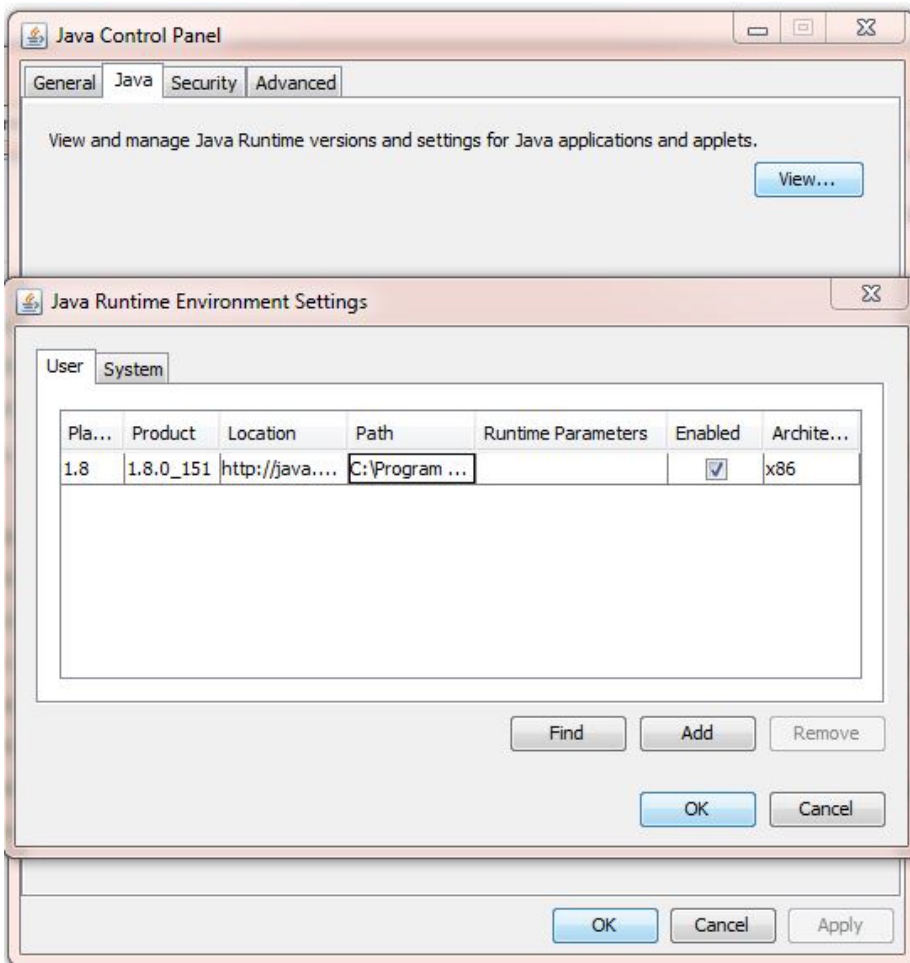
For Windows 7, select **Start -> Control Panel**

For Windows 10, search for “Control Panel” in the search bar

If your Control Panel is in Category View (see below), click on **Category** and change it to **Small Icons**. Double-click on **Java** to open the Java Control Panel



Select the **Java** tab to view the screen that provides access to the Java Runtime Environment Settings. Select the **View...** button, and this will display the Java Runtime Versions you have installed.



This displays the version and the installation location.

If it appears that you have a JRE installed, skip down to step 1.2 to confirm that the JRE environmental variable is defined.

Download and Install JRE if It Is Not Already Installed

1. Oracle: <http://www.oracle.com/technetwork/java/javase/downloads/index.html>
2. CNET: http://download.cnet.com/Java-Runtime-Environment-JRE/3000-2356_4-10009607.html

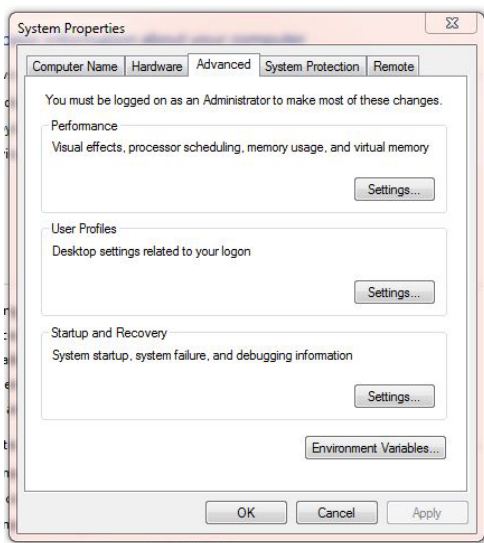
Note: the JRE is generally installed to the C:\Program Files or C:\Program Files (x86) folder.

Configure JRE Environmental Variable

Navigate to the **Advanced system settings**.

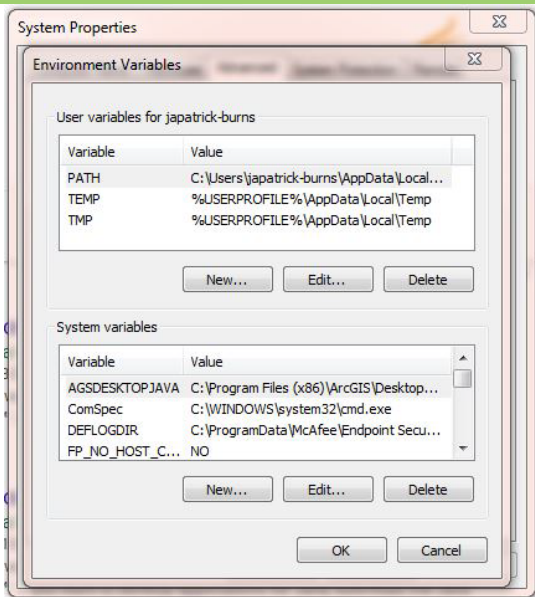
- For Windows 7: From the **Start** menu, right click on the **Computer** button. From right-click menu, select the **Properties** option. Select the **Advanced system settings** link on the left.
- For Windows 10: navigate to the Control Panel by searching “control panel” in the search bar. Click on System, then Advanced system settings.

Select the **Environment Variables** button near the bottom of the dialog box.



An Environment Variables window will appear. First verify that the JAVA_HOME environment variable is **not** defined.

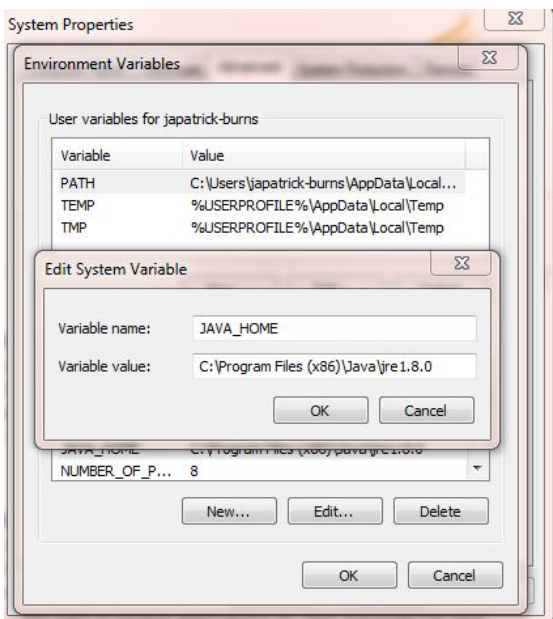
The environment variables are listed alphabetically. Scroll down the list, until you see where the environment variables would be listed that start with J. In the example below, there is no JAVA_HOME variable listed in this display, so it is not yet defined. We will create it in the following steps.



To create a new Environmental variable, select the **New** button in the lower half of the window.

A new **Edit System Variable** window will appear.

In the *Variable name* field, type `JAVA_HOME`. In the *Variable value* field, type the complete path to the folder that contains the JAVA bin folder, the lib folder, and the COPYRIGHT file. This will be **above the** bin folder that contains `java.exe` (Note: this will **not** be the bin folder, but the folder up one level from the bin folder).



Click **OK** to close the **Edit System Variable** window.

Review the list of system variables and verify the `JAVA_HOME` variable is there.

The system variables are listed alphabetically in the lower window. Scroll down through your list of system variables to confirm the `JAVA_HOME` variable was properly assigned.



Click **OK** to close the **Environment Variables** window.

Click **OK** to close the **System Properties** window.