

How to Batch-Download Digital Objects from AtoM: A User Guide for the Get-DigitalObjects PowerShell Program

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1. Introduction

The following is a user guide for the **Get-DigitalObjects** program. **Get-DigitalObjects** is a [PowerShell](#)¹ program that allows you to download any number of objects from an [AtoM](#)² archive with a single command. This program addresses the problem with having to download objects one-by-one within AtoM, which quickly turns into a tedious process.

This user guide assumes you are familiar with AtoM, and does not assume anything about your PowerShell knowledge. It also assumes that you have access to an AtoM installation with some digital objects, and that you have a user account for that AtoM installation, as you are required to log in to AtoM before you can download digital objects.

This guide is split into three parts. First, a step-by-step guide to installing the program. Second, a step-by-step guide on how to export a CSV from AtoM which contains links to digital objects, and finally, a thorough guide on how to use the program.

2. Installation

To start using the digital object downloader, you will first need to install it in PowerShell. If you do not know how to open PowerShell, follow the steps in section 2.1.

2.1 Opening PowerShell

To install the code, you will first need to open PowerShell. To do so:

1. Press the windows key (⊞) or click Start and type **PowerShell**. If the app comes up, press **ENTER**.
2. If that did not work, open Windows File Explorer. Hold shift and right-click on the whitespace in the window and click **Open PowerShell Window Here**.

After either of these steps, you will be greeted with a fresh PowerShell window. Keep it open.

¹ <https://www.digitalcitizen.life/simple-questions-what-powershell-what-can-you-do-it>

² <https://www.accesstomemory.org/en/>

2.2 Prerequisites to Installation

Before installing, you need to do a couple of pre-requisite checks. Open PowerShell up first.

1. Ensure your PowerShell version is at least 5.1. To check your version, type or copy³ the command `$PSVersionTable.PSVersion` into PowerShell and press **ENTER**. If your PowerShell's major version is less than 5, you will need to [upgrade PowerShell](#)⁴.
2. If you have never installed this program before or are not a frequent PowerShell user, you will need to set your execution policy to *Unrestricted*. Type or copy the following command `Set-ExecutionPolicy Unrestricted -Scope CurrentUser Force` into the PowerShell prompt and press **ENTER**. If you receive another prompt asking you to make a decision, you should enter the letter **Y** and press **ENTER**.
3. Ensure you have a PowerShell profile. A profile is simply a file in your Documents. To create a profile, type or copy the following command into the PowerShell prompt and press **ENTER**:

```
if (!(Test-Path -Path $PROFILE)) {  
    New-Item -ItemType File -Path $PROFILE -Force  
}
```

2.3 Installing the Code from PowerShell Gallery

The code for this program is hosted on the [PowerShell Gallery](#) for your convenience.

1. In PowerShell, type or copy the following command at the prompt and press **ENTER** to install the program.

```
PowershellGet\Install-Module AtomDigitalObjectDownloader -Scope  
CurrentUser -Force
```

³ To copy text into PowerShell, simply right click in the shell, or press CTRL-v

⁴

<https://docs.microsoft.com/en-us/powershell/scripting/windows-powershell/install/installing-windows-powershell?view=powershell-7#upgrading-existing-windows-powershell>

2. (Optional) If you have already installed the program in the past and instead want to update it with the most recent code, use this command:

```
PowerShellGet\Update-Module AtomDigitalObjectDownloader
```

3. If you receive a prompt asking if you trust packages from the PowerShell Gallery, answer yes by entering the letter **Y** and pressing **ENTER** to continue the installation.
4. Provided you didn't get any bright-red error text, the program is now installed. To make 100% sure it's installed, run the command `Get-Command Get-DigitalObjects` and ensure the output looks something like this:

```
C:\Users\dlove\Downloads\Get-DigitalObjects-v0.0.1\Get-DigitalObjects> Get-Command Get-DigitalObjects
```

CommandType	Name	Version	Source
-----	----	-----	-----
Function	Get-DigitalObjects	0.0.1	DigitalObjectDownloader

5. You are almost done! As a last step, you need to tell PowerShell to load the code every time it opens so that you can use the program to download objects whenever you like. First, open your profile in notepad by typing or copying `notepad $Profile` into PowerShell and hit **ENTER**.
6. Simply add one new line to the opened file:

```
Import-Module AtomDigitalObjectDownloader
```

(You will want to make sure that this is on its own line, but it can be anywhere in the file)

7. Save the file with **CTRL-S** and click the exit button at the top right.

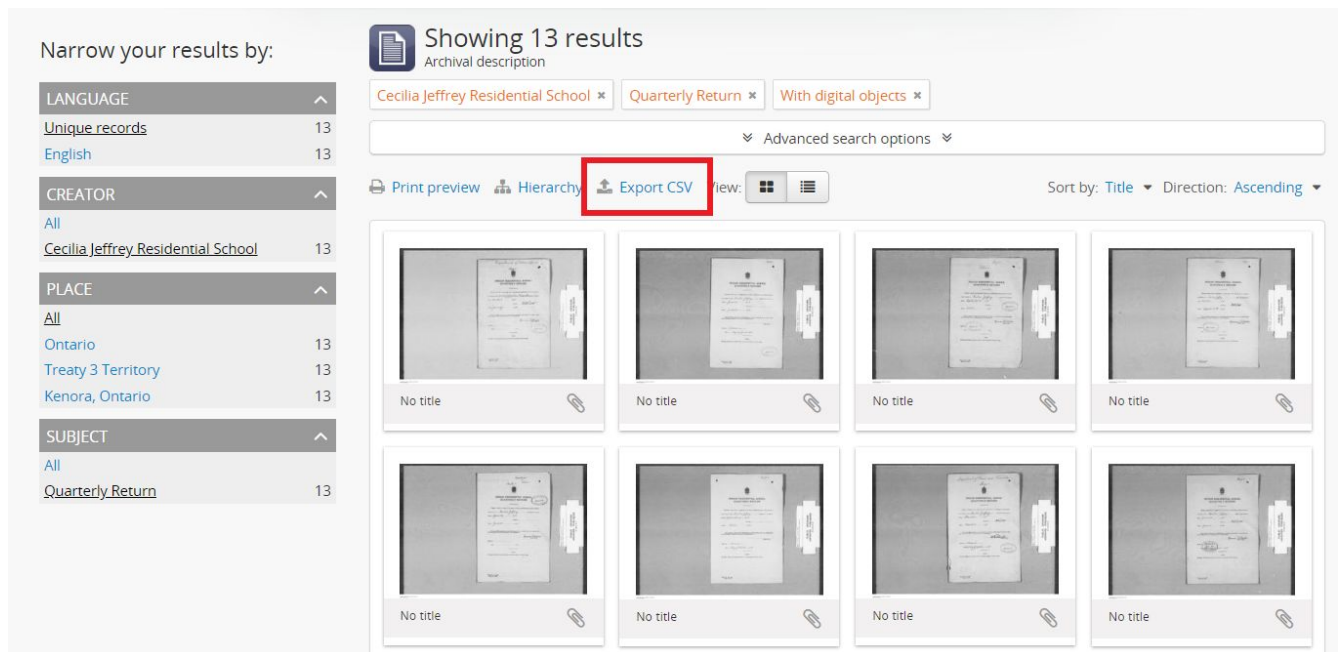
Now that the program is installed, it can be used to download digital objects from AtoM. But first, you will need a CSV exported from AtoM to download the digital objects.

3. Exporting CSV Data From AtoM

The **Get-DigitalObjects** program works by downloading all of the objects listed in a CSV spreadsheet under the **digitalObjectURI** or **digitalObjectPath** column. AtoM uses these columns to list URLs to the digital objects it stores. The easiest way to get such a CSV is to export one from AtoM itself.

3.1 Exporting a CSV from AtoM

1. First, go to AtoM in your web browser.
2. Log in to AtoM⁵ using the login button at the top right.
3. Search for some records with digital objects. There will be an **Export CSV** button on any page in AtoM that is showing digital records. It looks like the button highlighted in the image below.



4. After clicking that button, you will get a notification in AtoM telling you that you can check the Job Management page to view the exported CSV.

⁵ If you do not have login credentials to AtoM, talk to your system administrator to get set up with a log in account.

Export of descriptions initiated. Check [job management](#) page to download the results when it has completed.

5. Click the blue **job management** link. Alternately, click **Manage** in the top navigation bar of the screen, and click **Jobs**.
6. You should see the job you created on this page. You can find which jobs you created under the **User** column in the table by searching for your name. Wait for the Job Status to change from **Running** to **Completed**. Once complete, a download link will show up in the info column. Click the download link.
7. Select your Downloads folder in the pop-up file explorer and click **Save**.
8. In Windows File Explorer, navigate to your Downloads folder.
9. Right click the zip file that just downloaded and select **Extract All...**
10. Click **Extract**.
11. Open the extracted folder by double clicking on it.
12. Right click the CSV inside the folder, and select **Rename**. We are renaming the file since AtoM does not give exported CSVs nice names.
13. Rename the file to **AtoM Export**
14. Right click the renamed CSV and select **Copy**.
15. Navigate to your Documents folder in File Explorer.
16. Right click in the folder, and select **Paste**.

You will now have an exported CSV from AtoM in your Documents folder that is almost ready to be used. You will need to manually check it over, since AtoM has a tendency to duplicate columns and use the incorrect URLs in the **digitalObjectURI** column.

3.2 Exported CSV Quality Check

There are a couple of issues with the AtoM CSV export function at the time of writing. One problem is that AtoM will sometimes create a CSV with duplicated columns.

Get-DigitalObjects ignores this and can handle malformed CSVs, but if you are going to use the exported CSV for other purposes, you will likely want to remove the duplicated columns.

The other issue that you may need to fix is the links in the **digitalObjectURI** column. AtoM may replace the domain name in the URLs with the actual server name. If this happens and you do not fix it, you will get a **404 Not Found** error when trying to download the digital objects. Say for example your AtoM is at **youratom.com**, and the server which AtoM is running on is called **youratom-public-production**. AtoM may put the latter in the **digitalObjectURI** column instead of just **youratom**.

The simplest way to fix the URL issue is to use the search and replace function in Excel or LibreOffice Calc to replace the bad part of the URLs. If you are unfamiliar with the search and replace function, the following links are useful resources:

- [Excel](#)⁶
- [LibreOffice Calc](#)⁷

Using our previous example, you would want to find **myatom-public-production** in the search and replace dialogue box, and replace every occurrence of it with **myatom**. At the NCTR, we need to replace every occurrence of **nctrpublic-atom-prod01** with **nctrpublic**.

Once the exported CSV is fixed, you may proceed to the next step.

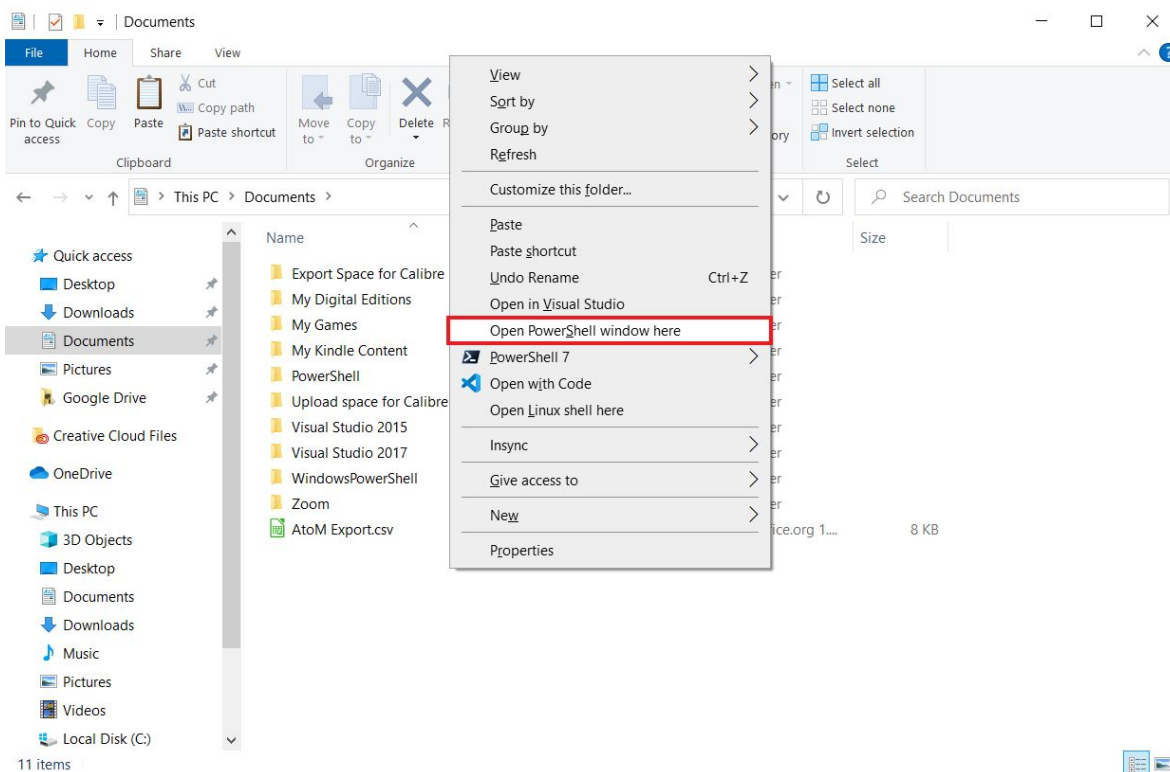
⁶ <https://www.ablebits.com/office-addins-blog/2015/09/29/using-excel-find-replace/>

⁷ <https://www.libreofficehelp.com/basics-find-replace-libreoffice-calc>

4. Using the Get-DigitalObjects Program

Now that the program is installed and you have a CSV exported from AtoM in your Documents folder, you will need to learn how to use the **Get-DigitalObjects** program. We will continue using the Documents folder where you downloaded the AtoM CSV to. Continue to keep in mind that you can use any folder you like, including folders on any network shared drive that you use.

First, let's open up PowerShell inside the Documents folder. Hold shift and right-click within the folder. Click the option that says **Open PowerShell window here**.



You will be greeted with a PowerShell window opened in your Documents folder.

To use the program, you will enter **Get-DigitalObjects** at the PowerShell command prompt. Every time you want to use this program, you will use this name to call it.

```
Get-DigitalObjects
```

The program requires the URL to your AtoM installation as well as a CSV that contains the digital objects that you wish to download. Let's continue to assume that your AtoM is accessible at **<https://myatom.com>**. Keep in mind that you will want to substitute your actual AtoM installation URL for that URL. To give the program the URL, use the **-AtomUrl** option, like so:

```
Get-DigitalObjects -AtomUrl https://myatom.com
```

The last required piece of information is the **-CsvFile** option. Since your PowerShell is opened in the Documents folder, and you created a file in the Documents folder called **AtoM Export.csv** in the last section of this guide, input the CSV to the application like so⁸:

```
Get-DigitalObjects -AtomUrl https://myatom.com -CsvFile 'Atom Export.csv'
```

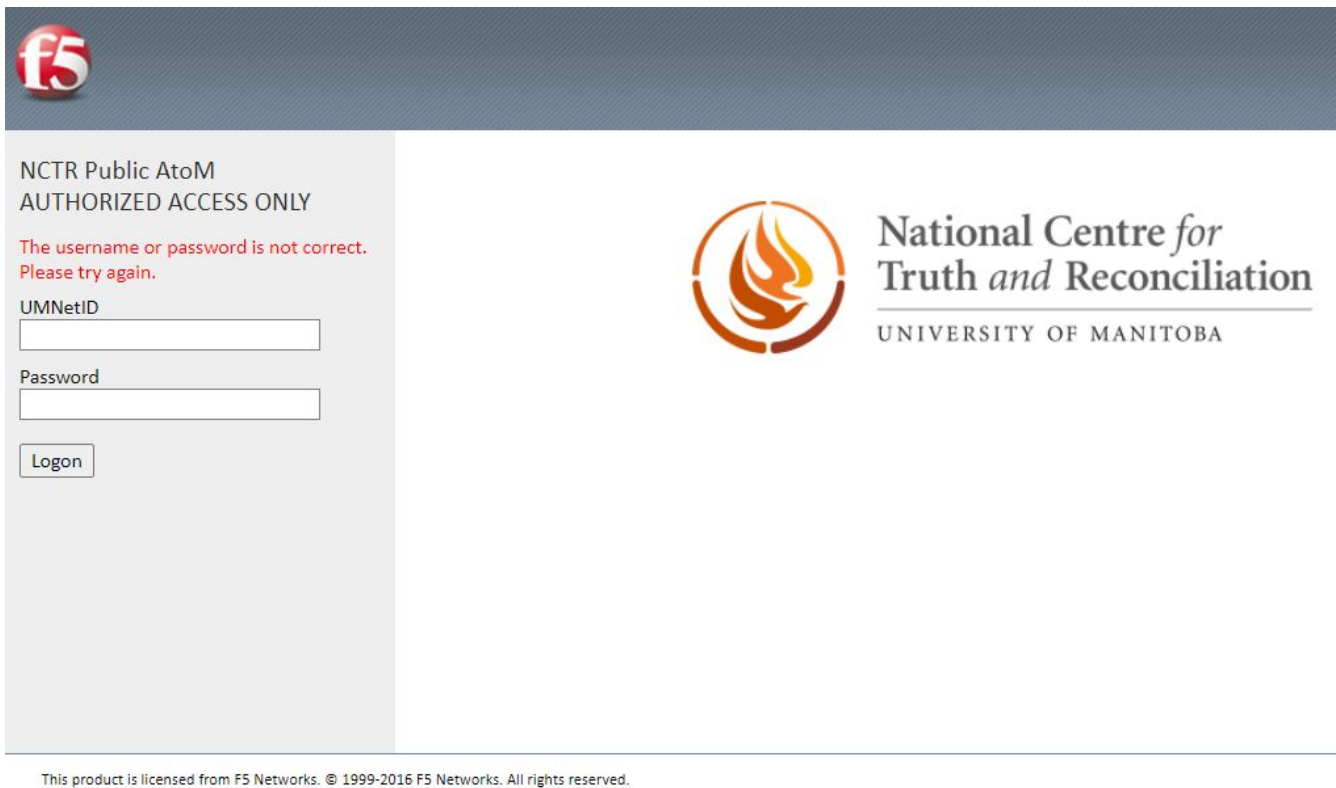
If you have a CSV file somewhere else on your computer that you want to use, for example at **C:\Users\you\some.csv**, you can use the full path instead for the **-CsvFile** option, like so⁹:

```
Get-DigitalObjects -CsvFile 'C:\Users\you\some.csv' -AtomUrl  
https://myatom.com
```

There is one more step to consider before you hit enter to execute the command, and that is whether your AtoM has an F5 log in page. To determine whether your AtoM installation has an F5 log in page, go to AtoM in your web browser. Your AtoM has an F5 log in page if you are greeted by a page similar to the one in the following image.

⁸ Notice that we surrounded the name of the CSV file with single quotes. This is a necessary step when the file name contains spaces, as ours does.

⁹ The order of the **-AtomUrl** and **-CsvFile** parameters does not matter.



NCTR Public AtoM
AUTHORIZED ACCESS ONLY

The username or password is not correct.
Please try again.

UMNetID

Password

Logon

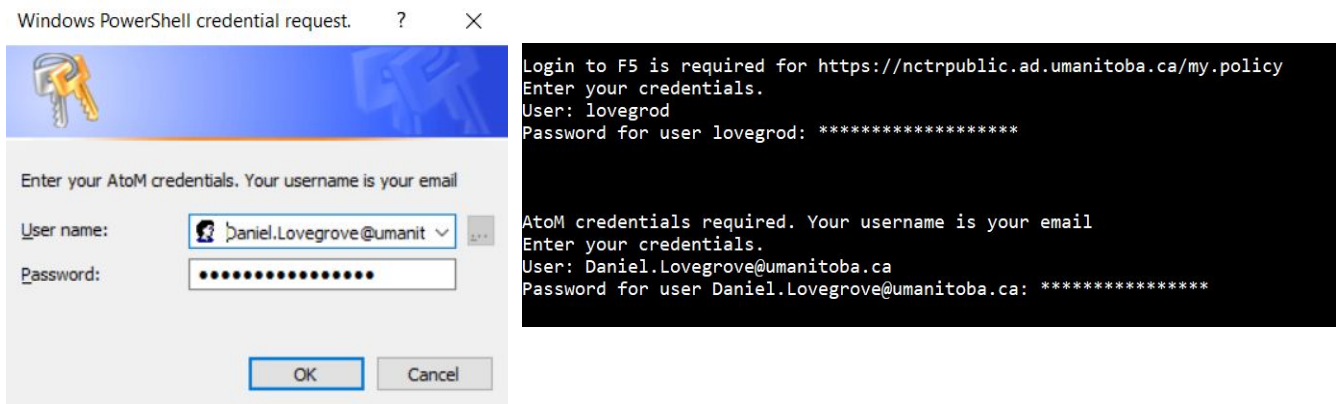
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If this is the case, you will also need to provide the **-RequireF5Login** option to the program, like the following command. If there is no F5 login page present, you should skip adding this option.

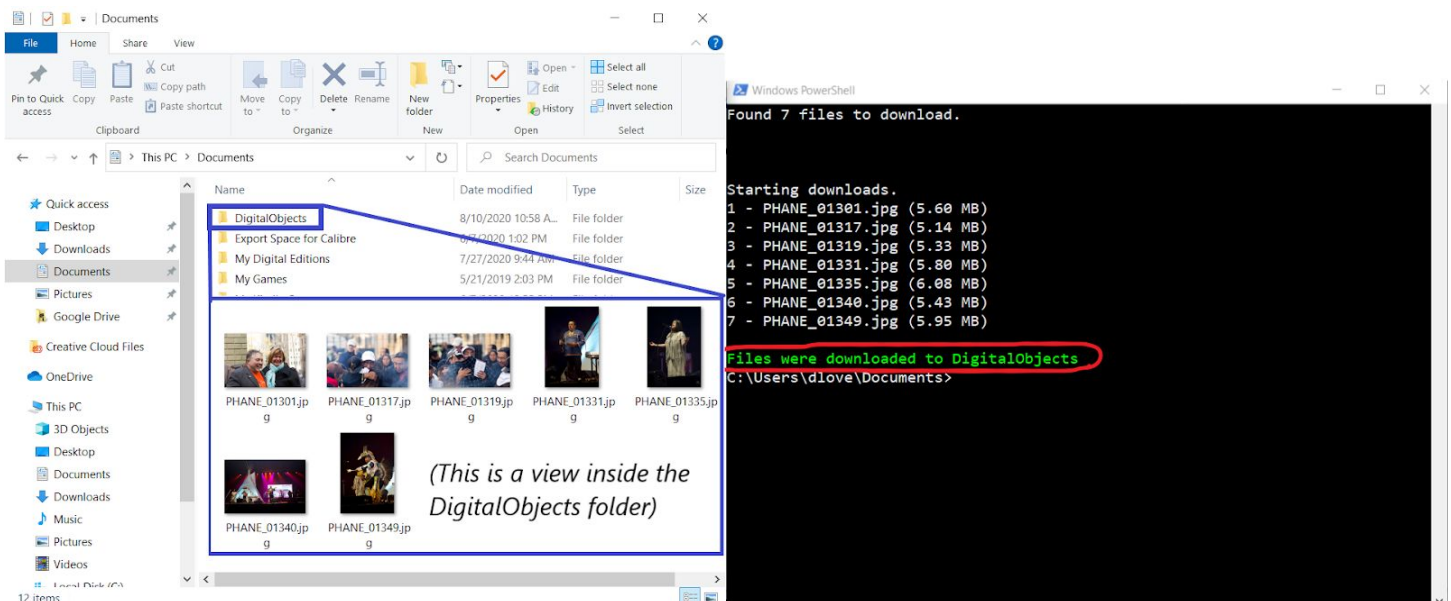
```
Get-DigitalObjects -AtomUrl https://myatom.com -CsvFile 'Atom Export.csv'  
-RequireF5Login
```

Now that you have created a command with all of the required data, **press enter to run it**. You will be required to log in to F5 if you use the **-RequireF5Login** option, and you will be required to log in to AtoM regardless of the options you provide. The login prompt may either be graphical or not, depending on how your system is configured. It will look like either of the two following images.



In both cases, you will simply enter the credentials it asks you to enter, the same as you would in your web browser. If you want to cancel logging in, you can press **Cancel** in the graphical interface, or press **CTRL-C**¹⁰ in the command line interface.

Once you've entered your credentials correctly, the objects will download into a folder called **DigitalObjects** in your Documents folder:



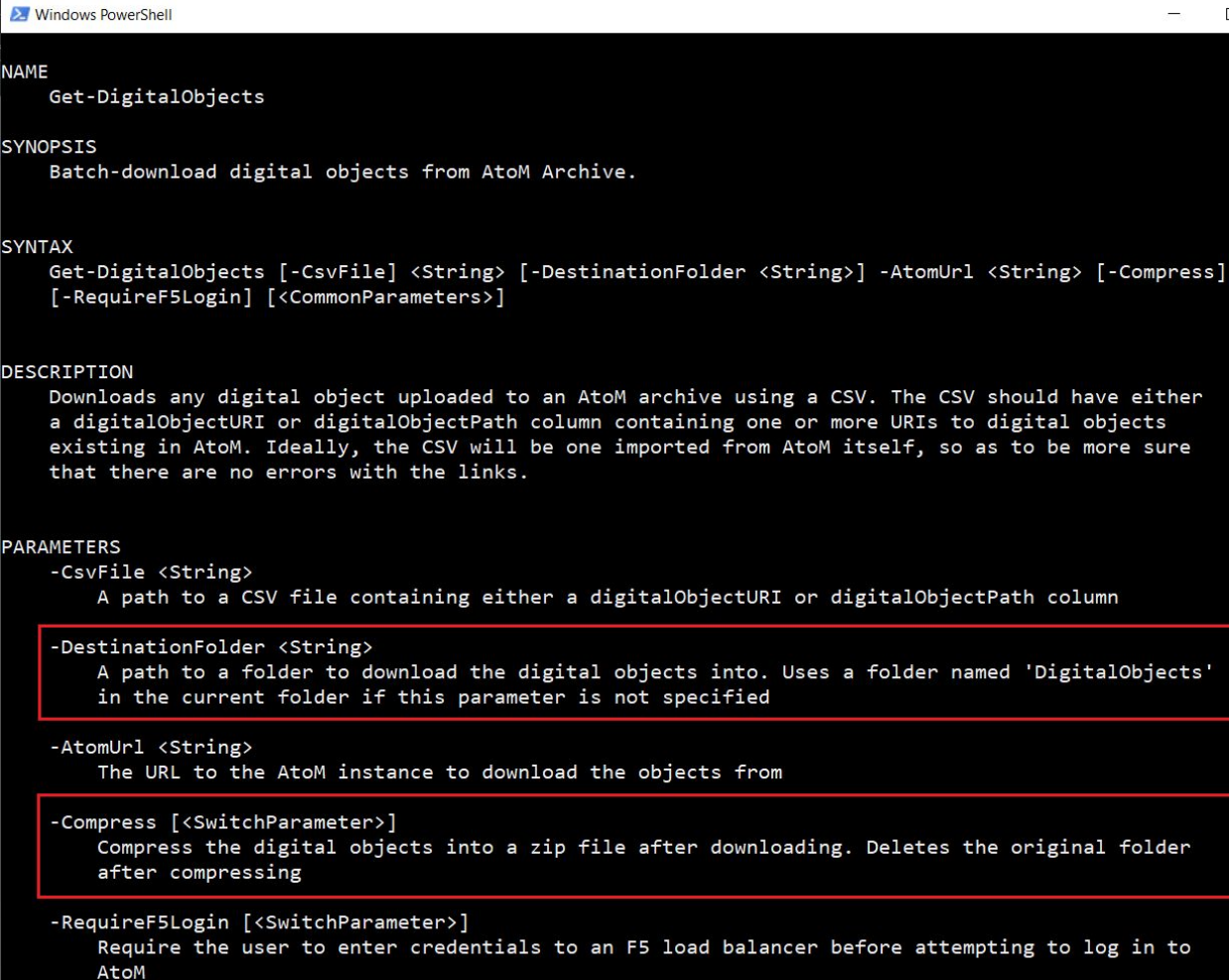
¹⁰ At any point during the program's execution, you may press CTRL-C to exit from the program.

4.1 Other Options for Get-DigitalObjects

There are other options you can use with **Get-DigitalObjects** depending on how you want the program to act. You can use the following **help** command if you want to know what the other options are.

```
Get-Help Get-DigitalObjects -Detailed
```

The following image is a portion of the help message you'll receive from this PowerShell command.



```
NAME
    Get-DigitalObjects

SYNOPSIS
    Batch-download digital objects from AtoM Archive.

SYNTAX
    Get-DigitalObjects [-CsvFile] <String> [-DestinationFolder <String>] -AtomUrl <String> [-Compress]
    [-RequireF5Login] [<CommonParameters>]

DESCRIPTION
    Downloads any digital object uploaded to an AtoM archive using a CSV. The CSV should have either
    a digitalObjectURI or digitalObjectPath column containing one or more URIs to digital objects
    existing in AtoM. Ideally, the CSV will be one imported from AtoM itself, so as to be more sure
    that there are no errors with the links.

PARAMETERS
    -CsvFile <String>
        A path to a CSV file containing either a digitalObjectURI or digitalObjectPath column

    -DestinationFolder <String>
        A path to a folder to download the digital objects into. Uses a folder named 'DigitalObjects'
        in the current folder if this parameter is not specified

    -AtomUrl <String>
        The URL to the AtoM instance to download the objects from

    -Compress [<SwitchParameter>]
        Compress the digital objects into a zip file after downloading. Deletes the original folder
        after compressing

    -RequireF5Login [<SwitchParameter>]
        Require the user to enter credentials to an F5 load balancer before attempting to log in to
        AtoM
```

The two parameters highlighted in red above are the two options that we have not encountered yet. If you read the text in the red boxes, you can see what each option does.

To use the **-DestinationFolder** option, you must specify the name of a folder that you want to download the files into.

```
Get-DigitalObjects -AtomUrl https://myatom.com -CsvFile 'Atom Export.csv'  
-DestinationFolder '2020 Digital Object Export'
```

To use the **-Compress** option to create a zip archive instead of a folder, you supply the option as-is.

```
Get-DigitalObjects -AtomUrl https://myatom.com -CsvFile 'Atom Export.csv'  
-Compress
```

So, a command using every option available would look like:

```
Get-DigitalObjects -AtomUrl https://myatom.com -CsvFile 'Atom Export.csv'  
-DestinationFolder 'ExportedImages' -Compress -RequireF5Login
```

This would download the files specified in **Atom Export.csv** from **https://myatom.com** into a folder called **ExportedImages**. You would be asked for **F5 login credentials**, and the files would be compressed into a zip called **ExportedImages.zip** after the downloads are finished.

Appendix A: For Developers

If you are a developer and are interested in viewing the code for this application or modifying it, you can visit the GitHub repository for the code [here](#)¹¹.

¹¹ <https://github.com/danloveg/Get-DigitalObjects>