
BitCurator Access

bitcurator-access-webtools
Quick Start Guide

Last updated: May 8th, 2018
Release(s): 0.8.2 and later



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About bitcurator-access-webtools

The **bitcurator-access-webtools** service allows users to browse file systems in raw and forensically packaged disk images using a web browser.

It is intended to support access scenarios in libraries, archives, and museums preserving born-digital materials extracted from source media as raw or forensically-packaged disk images.

The software is distributed with a build script to automatically provision and deploy a virtual machine running the service on any host with Vagrant and VirtualBox installed. This document will help you get started.

Getting started

- **Hardware (recommended):**

- Desktop or laptop with an Intel Core i5 or Core i7 processor (or AMD equivalent) running 64-bit Windows 7/8/8.1/10, Mac OS 10.10 (or newer), or a 64-bit Linux variant.
- 8GB RAM or more
- 8GB free hard disk space.

- **Software:**

- Current release of bitcurator-access-webtools. **Download** the latest release (.zip or .tar.gz file) from:
 - <https://github.com/bitcurator/bitcurator-access-webtools/releases>
- Current release of VirtualBox. **Download and run** the current Windows, Mac, or Linux installer.
 - <https://www.virtualbox.org/wiki/Downloads>
- Current release of Vagrant. **Download and run** the current Windows, Mac, or Linux installer (you may need to reboot after installing).
 - <https://www.vagrantup.com/>

Files and directories in the downloaded release

- Unzipping the package extracts a directory named “bitcurator-access-webtools-X.X.X” (where X.X.X is the release number). Inside the directory are several files and directories, several of which you may wish to modify:
 - **Vagrantfile:** This is the configuration file for Vagrant. By default it assigns 4GB RAM to the VM (**vb.memory = 4096**) and 2 processors to the VM (**vb.cpus = 2**). These are appropriate settings for a host with 8GB RAM and a Core i5 or Core i7 CPU. You may wish to modify these depending on the hardware you are using.
 - **disk-images:** This directory contains some sample raw and E01 disk images. You may wish to remove these, or copy additional disk images to this location.
- **Tip:** bca-webtools recognizes E01, AFF, raw (.dd), and ISO disk images. It does not currently support split images.

Getting started: Adding a Vagrant box

- You will need a **Ubuntu 18.04 Vagrant box** in order to build and run **bitcurator-access-webtools**.
 - Open a terminal (in OS X or Linux) or a command prompt (Windows).
 - Mac how-to: Click on the Spotlight icon and type **term**. Hit enter.
 - Windows how-to: Click on the Start button and type **cmd**. Hit enter.
 - Type the following, hit enter, and allow the box to download:
vagrant box add bento/ubuntu-18.04
 - Change directory into bitcurator-access-webtools:
 - If you downloaded the bitcurator-access-webtools package onto your Desktop and extracted it there on a Mac, you would type the following:
cd /Users/your-user-name/Desktop/bitcurator-access-webtools-X.X.X
 - Similarly, on Windows:
cd \Users\your-user-name\Desktop\bitcurator-access-webtools-X.X.X
 - Type the following, hit enter, and wait. Building bitcurator-access-webtools the first time may take up to 30 minutes (you will see a success message in the terminal when it finishes):
vagrant up

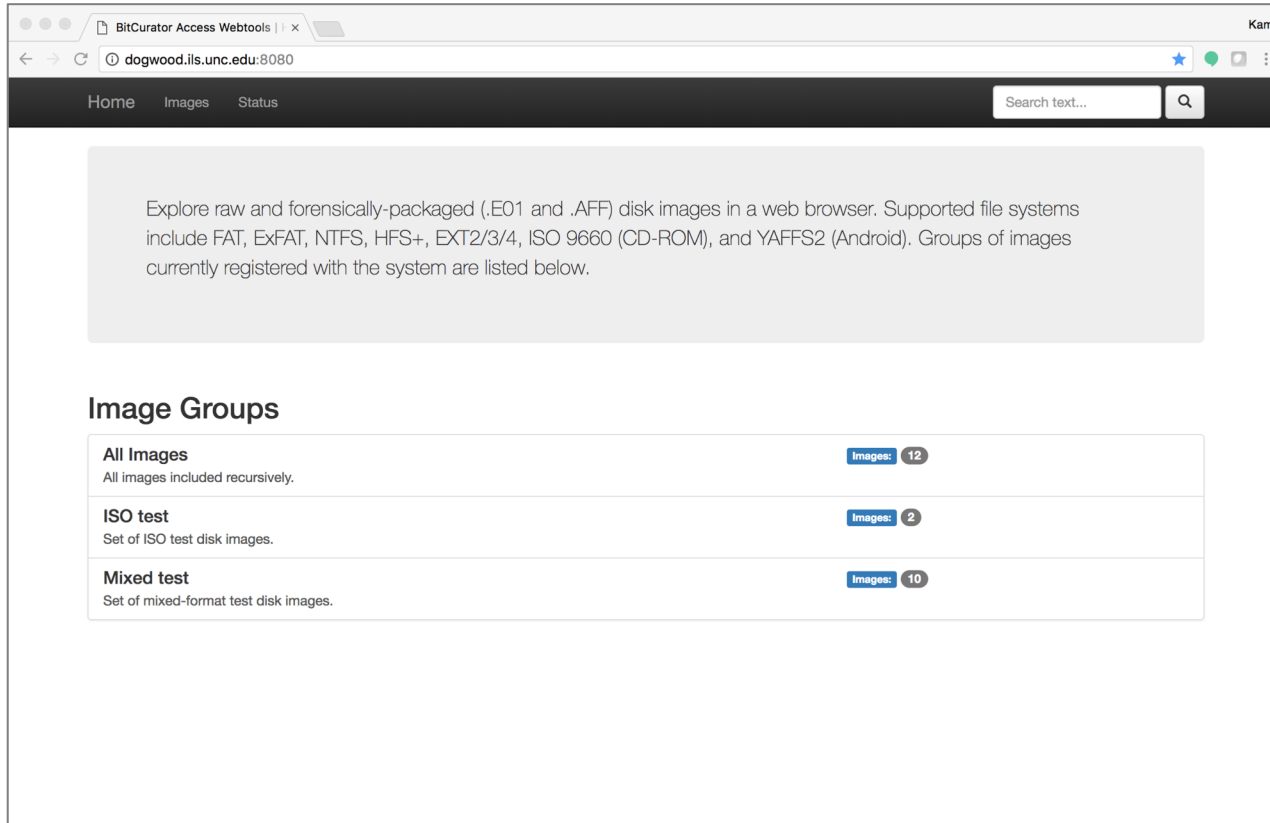
Getting started: Navigating to the interface

- In the previous steps, the installation script will provide feedback in the console as it installs each package.
- Once the virtual machine has been provisioned, open a web browser on your host and navigate to:

127.0.0.1:8080

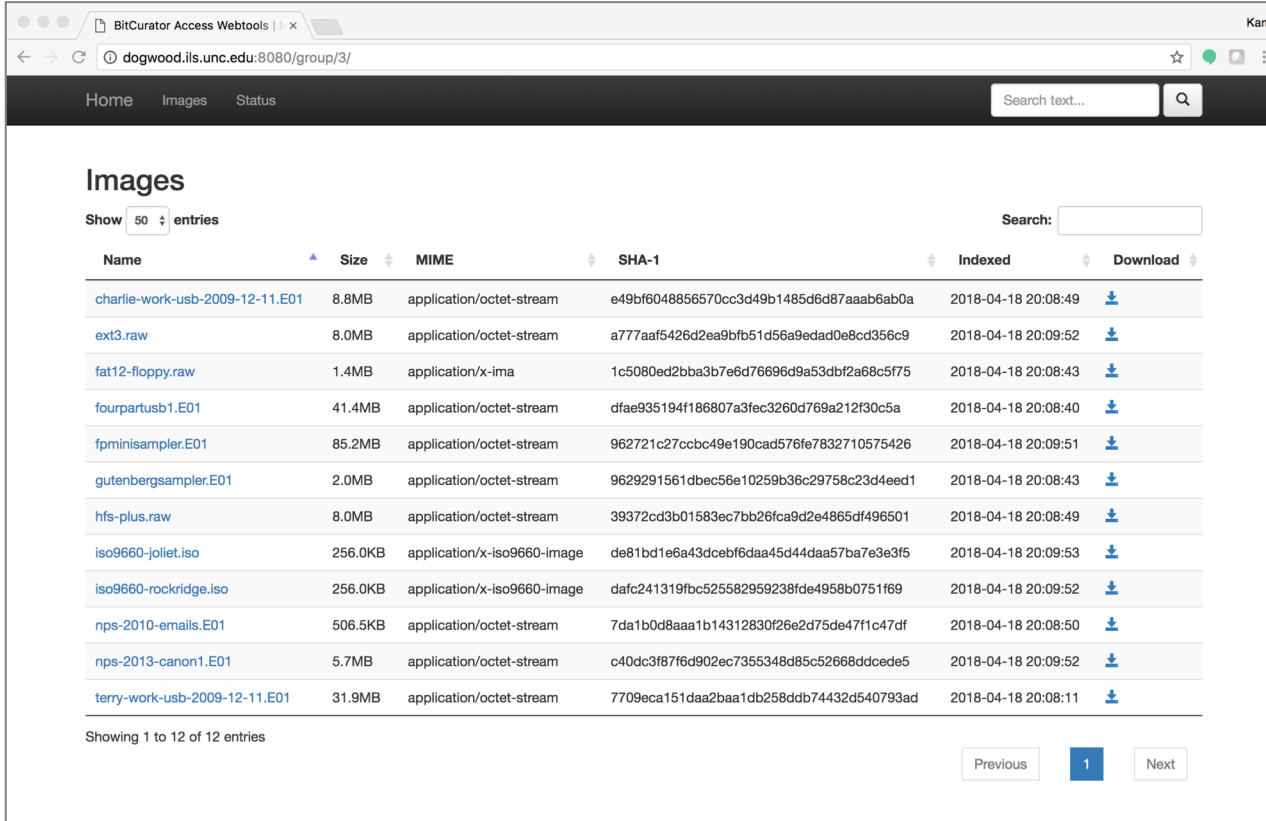
At this point you should see the bitcurator-access-webtools service running.

Getting started: Main page



You should see a page similar to the one above at **127.0.0.1:8080**. Disk images groups defined in your **groups.conf** directory should appear in the listing on this page. Click on an individual group to see images associated with that group. In this example, we'll select **"All Images"**.

Getting started: Images in a group



The screenshot shows a web browser window with the address bar displaying "dogwood.ils.unc.edu:8080/group/3/". The page has a navigation bar with "Home", "Images", and "Status" links, and a search bar labeled "Search text...". The main content area is titled "Images" and includes a "Show 50 entries" dropdown and a "Search:" input field. Below this is a table with 12 entries, each with columns for Name, Size, MIME, SHA-1, Indexed, and Download. The table is sorted by size. At the bottom, it says "Showing 1 to 12 of 12 entries" and has "Previous", "1", and "Next" pagination buttons.

Name	Size	MIME	SHA-1	Indexed	Download
charlie-work-usb-2009-12-11.E01	8.8MB	application/octet-stream	e49bf6048856570cc3d49b1485d6d87aaab6ab0a	2018-04-18 20:08:49	Download
ext3.raw	8.0MB	application/octet-stream	a777aaf5426d2ea9bfb51d56a9edad0e8cd356c9	2018-04-18 20:09:52	Download
fat12-floppy.raw	1.4MB	application/x-ima	1c5080ed2bba3b7e6d76696d9a53dbf2a68c5f75	2018-04-18 20:08:43	Download
fourpartusb1.E01	41.4MB	application/octet-stream	dfae935194f186807a3fec3260d769a212f30c5a	2018-04-18 20:08:40	Download
fpmisampler.E01	85.2MB	application/octet-stream	962721c27ccbc49e190cad576fe7832710575426	2018-04-18 20:09:51	Download
gutenbergsampler.E01	2.0MB	application/octet-stream	9629291561dbec56e10259b36c29758c23d4eed1	2018-04-18 20:08:43	Download
hfs-plus.raw	8.0MB	application/octet-stream	39372cd3b01583ec7bb26fca9d2e4865df496501	2018-04-18 20:08:49	Download
iso9660-joliet.iso	256.0KB	application/x-iso9660-image	de81bd1e6a43dcebf6daa45d44daa57ba7e3e3f5	2018-04-18 20:09:53	Download
iso9660-rockridge.iso	256.0KB	application/x-iso9660-image	dafc241319fbc525582959238fde4958b0751f69	2018-04-18 20:09:52	Download
nps-2010-emails.E01	506.5KB	application/octet-stream	7da1b0d8aaa1b14312830f26e2d75de47f1c47df	2018-04-18 20:08:50	Download
nps-2013-canon1.E01	5.7MB	application/octet-stream	c40dc3f87f6d902ec7355348d85c52668ddced5	2018-04-18 20:09:52	Download
terry-work-usb-2009-12-11.E01	31.9MB	application/octet-stream	7709eca151daa2baa1db258ddb74432d540793ad	2018-04-18 20:08:11	Download

Images associated with the group are displayed (and sortable) by size, MIME type, hash, and time indexed (an indicated time means the full-text indexer has finished processing a particular image). The full image may be downloaded using the **Download** link.

Getting started: Image selection

The screenshot shows a web browser window with the URL `dogwood.ils.unc.edu:8080/image/2/`. The page displays the details for a selected forensic image, **fourpartusb1.E01**.

Metadata:

- Format:** EnCase 6
- Size:** 3.7GB
- Sectors:** 7821312
- Blocks/Sector:** 512
- MD5:** 24f518cb5f95bcb6657a9e39f8ea1354
- SHA-1:** dfae935194f186807a3fec3260d769a212f30c5a

Download: [Download icon]

Partitions

Show 50 entries

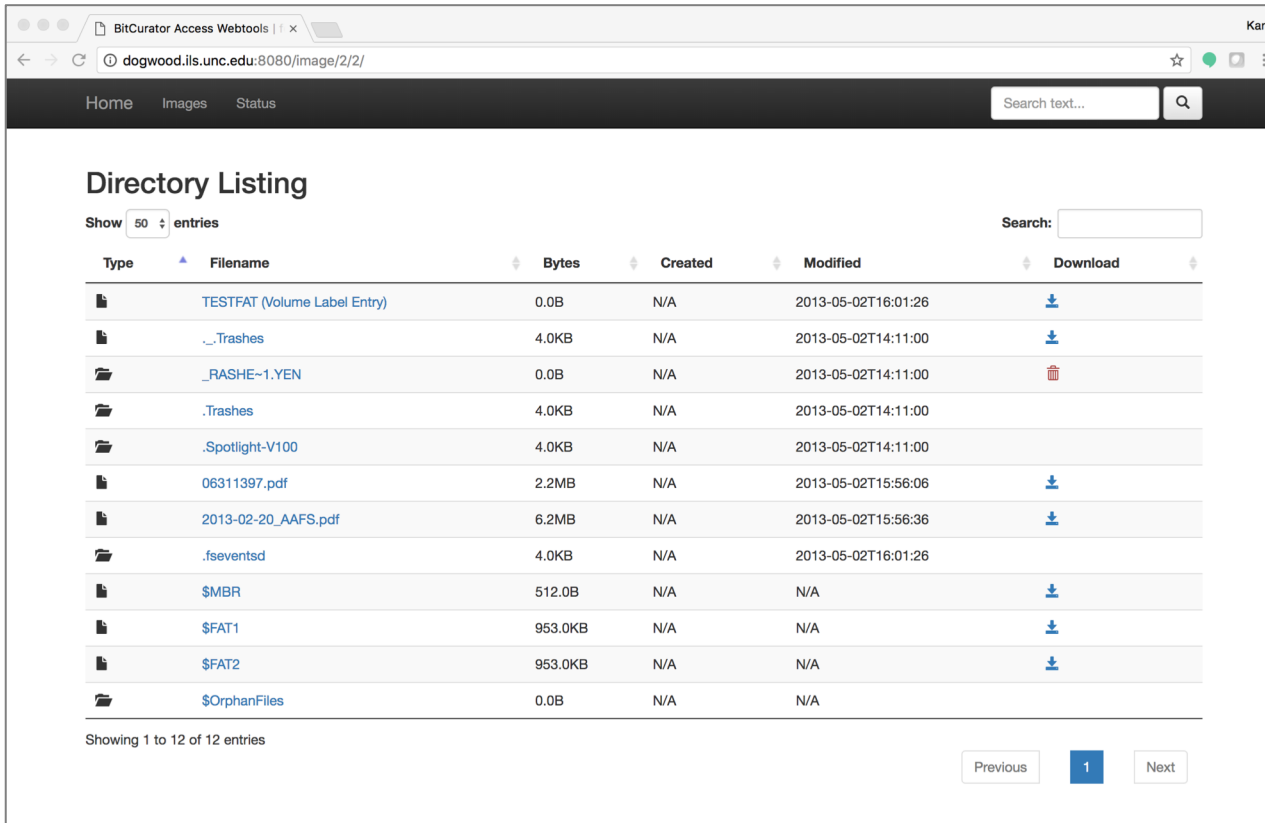
Id	Name	File System	Start
2	fourpartusb1.E01	Win95 FAT32 (0x0b)	2
3	fourpartusb1.E01	Win95 FAT32 (0x0b)	1955331
4	fourpartusb1.E01	Mac OS X HFS (0xaf)	3910660
5	fourpartusb1.E01	Linux (0x83)	5867520

Showing 1 to 4 of 4 entries

Previous 1 Next

Select an image. In this example, we've selected **fourpartusb1.E01**. Selecting an image will display a page with basic metadata associated with the forensic container format (if available) and partitions identified within the image.

Getting started: Partition selection



The screenshot shows a web browser window with the address bar displaying "dogwood.ils.unc.edu:8080/image/2/2/". The page title is "Directory Listing". Below the title, there is a "Show 50 entries" dropdown and a "Search:" input field. The main content is a table with columns: Type, Filename, Bytes, Created, Modified, and Download. The table lists 12 entries, including "TESTFAT (Volume Label Entry)", ".Trashes", "_RASHE~1.YEN", ".Trashes", ".Spotlight-V100", "06311397.pdf", "2013-02-20_AAFS.pdf", ".fseventsd", "\$MBR", "\$FAT1", "\$FAT2", and "\$OrphanFiles". The "Download" column contains download arrows for most files and a trashbin icon for "_RASHE~1.YEN".

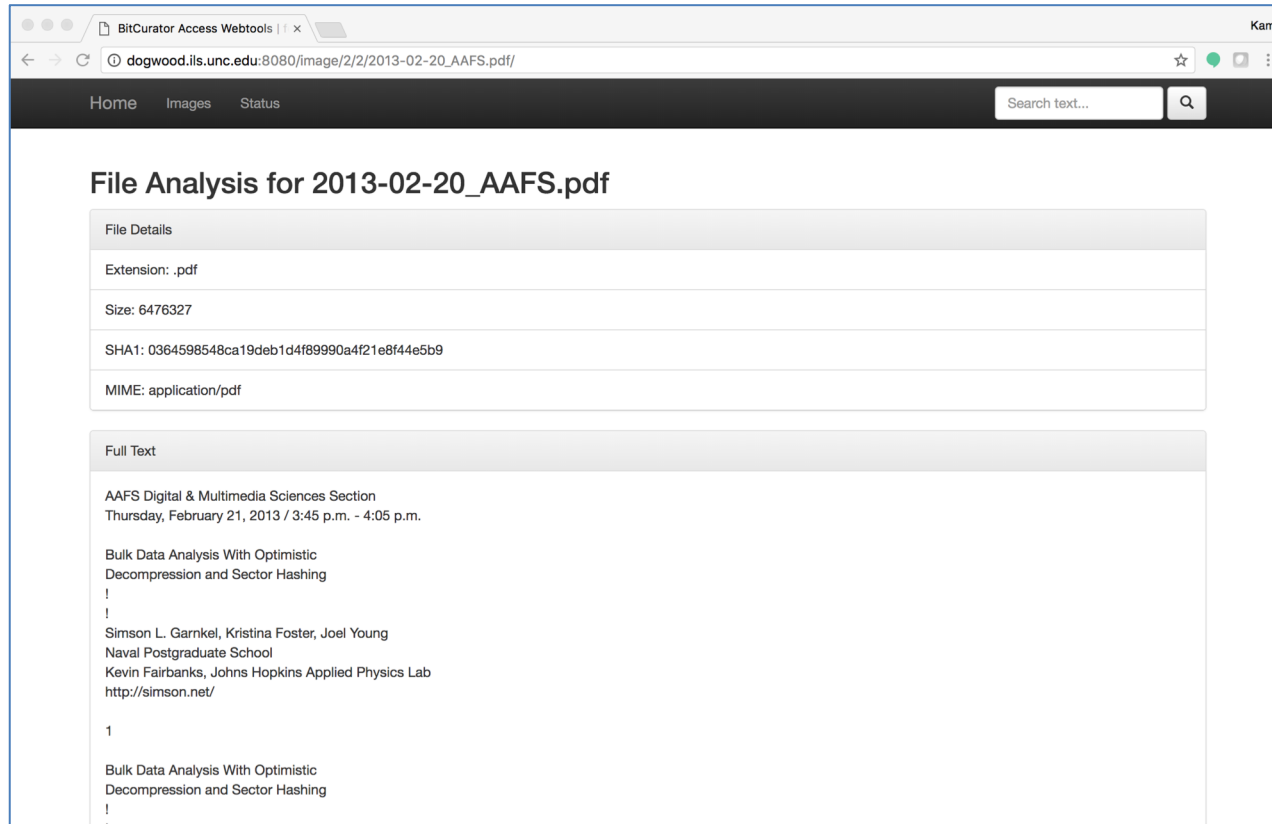
Type	Filename	Bytes	Created	Modified	Download
File	TESTFAT (Volume Label Entry)	0.0B	N/A	2013-05-02T16:01:26	Download
File	._Trashes	4.0KB	N/A	2013-05-02T14:11:00	Download
File	._RASHE~1.YEN	0.0B	N/A	2013-05-02T14:11:00	Trash
File	.Trashes	4.0KB	N/A	2013-05-02T14:11:00	Download
File	.Spotlight-V100	4.0KB	N/A	2013-05-02T14:11:00	Download
File	06311397.pdf	2.2MB	N/A	2013-05-02T15:56:06	Download
File	2013-02-20_AAFS.pdf	6.2MB	N/A	2013-05-02T15:56:36	Download
File	.fseventsd	4.0KB	N/A	2013-05-02T16:01:26	Download
File	\$MBR	512.0B	N/A	N/A	Download
File	\$FAT1	953.0KB	N/A	N/A	Download
File	\$FAT2	953.0KB	N/A	N/A	Download
File	\$OrphanFiles	0.0B	N/A	N/A	Download

Showing 1 to 12 of 12 entries

Previous 1 Next

Select a partition. Here, we've selected the first FAT32 partition on **fourpartusb1.E01**. A directory listing is shown for the root directory. Deleted files for which directory entries have been identified will be indicated with a trashbin icon in the **Download** column. Select download arrows to download individual files (as available), or click the filenames themselves for a full-text extraction (when possible).

Getting started: Full-text file view

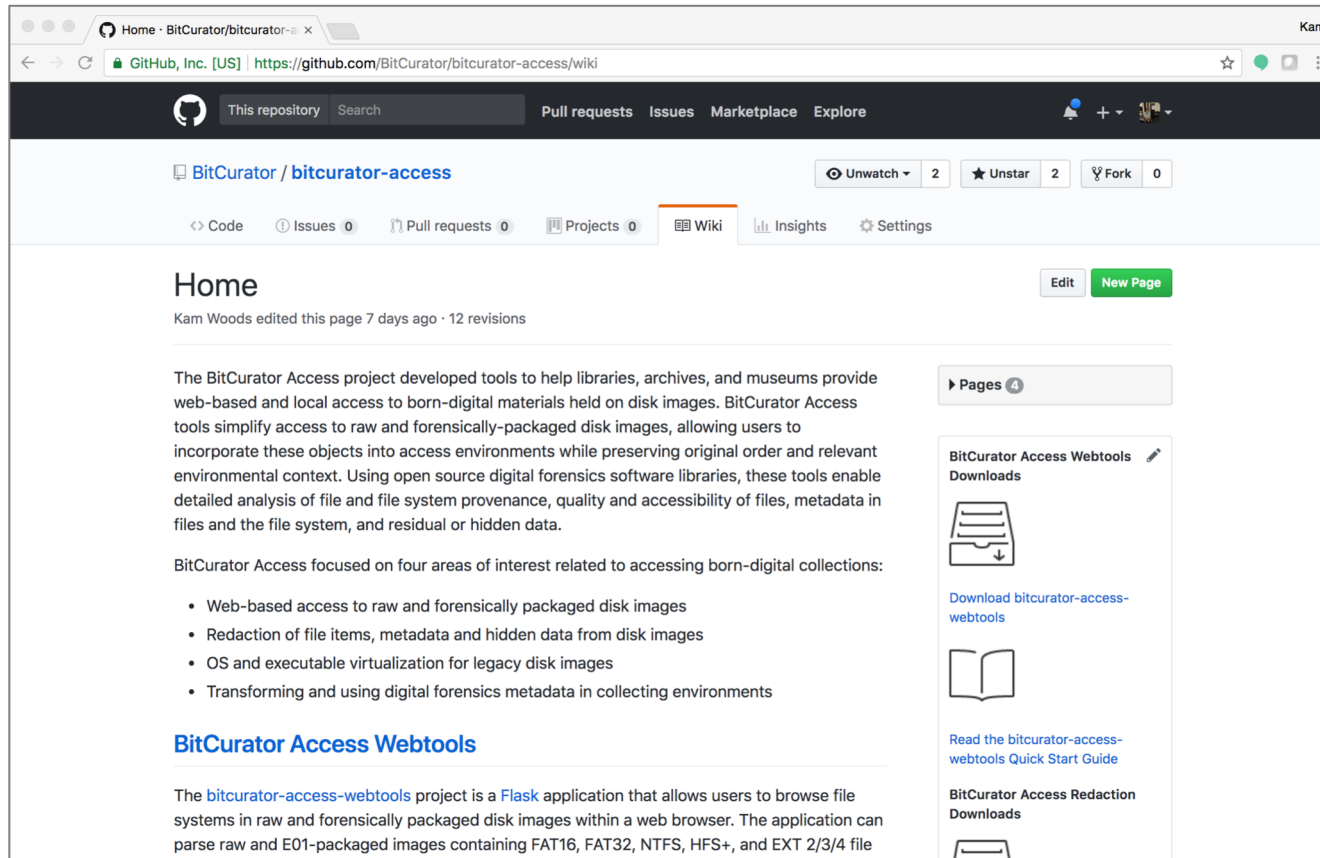


Click on an individual file name. In this example, we've selected **2013-02-20_AAFS.pdf**. The server uses a text extraction library to present a full-text view of the file contents.

Halting and restarting the service from the host

- You may wish to stop the virtual machine instance between sessions. You can do this by typing:
vagrant halt
in the same directory in the terminal or command window you opened earlier (if you closed it, open a new window and navigate to the bitcurator-access-webtools directory as per the earlier instructions before entering this command)
- You can completely delete the virtual machine by typing:
vagrant destroy
in the bitcurator-access-webtools directory.
- You can type **vagrant up** at any time in this directory to bring the service up again. If you have not run the **vagrant destroy** command, the service should boot in less than a minute. If you have run the **vagrant destroy** command, the virtual machine will be rebuilt from scratch.

Additional resources



More detailed information can be found on the project wiki at <https://github.com/BitCurator/bitcurator-access/wiki>.

Source code and releases can be found on GitHub at <https://github.com/bitcurator/bitcurator-access-webtools>.