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# BitCurator Access

## bca-webtools Quick Start Guide

Last updated: July 23rd, 2016  
Release(s): 0.4.12 and later



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# About bca-webtools

**bca-webtools** is a self-contained disk image analysis and web service platform that allows users to browse a wide range of file systems contained within disk images using a web browser.

It is intended to support access requirements 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 configure a virtual machine that runs the server on any machine with VirtualBox installed. This document will help you get started.

# Getting Started with bca-webtools

- **Hardware:**

- 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
- 12GB free hard disk space minimum. The virtual machine is approximately 6GB. It will expand to 256GB as needed.

- **Software:**

- Current release of bca-webtools. **Download** the latest release (.zip or .tar.gz file) from:
  - <https://github.com/bitcurator/bca-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 bca-webtools package

- Unzipping the bca-webtools package extracts a directory named “bca-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**). You may wish to modify these depending on the hardware you are using.
  - **disk-images:** This directory contains some sample E01 disk images. You may wish to remove these, or copy additional disk images to this location.
- **Tip:** bca-webtools recognizes E01, AFF, and raw (.dd) disk images with .E01, .aff, and .dd extensions. It does not currently support split images.

# Files and Directories in the bca-webtools package

- Unzipping the package extracts a directory named “bca-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 E01 disk images. You may wish to remove these, or copy additional disk images to this location.
- **Tip: bca-webtools recognizes E01, AFF, and raw (.dd) disk images with .E01, .aff, and .dd extensions. It does not currently support split images.**

# Getting Started: Adding a Vagrant box

- You will need a default Vagrant box (a stripped-down machine image) in order to build and run bca-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 ubuntu/trusty64**
  - Change directory to the location of bca-webtools:
    - For example, if you downloaded the bca-webtools package onto your Desktop and extracted it there on a Mac, you would type the following:  
**cd /Users/your-user-name/Desktop/bca-webtools-X.X.X**
    - Similarly, on Windows:  
**cd \Users\your-user-name\Desktop\bca-webtools-X.X.X**
  - Type the following, hit enter, and wait. Building bca-webtools the first time may take up to 30 minutes (you will see a success message in the terminal when it finishes):  
**vagrant up**

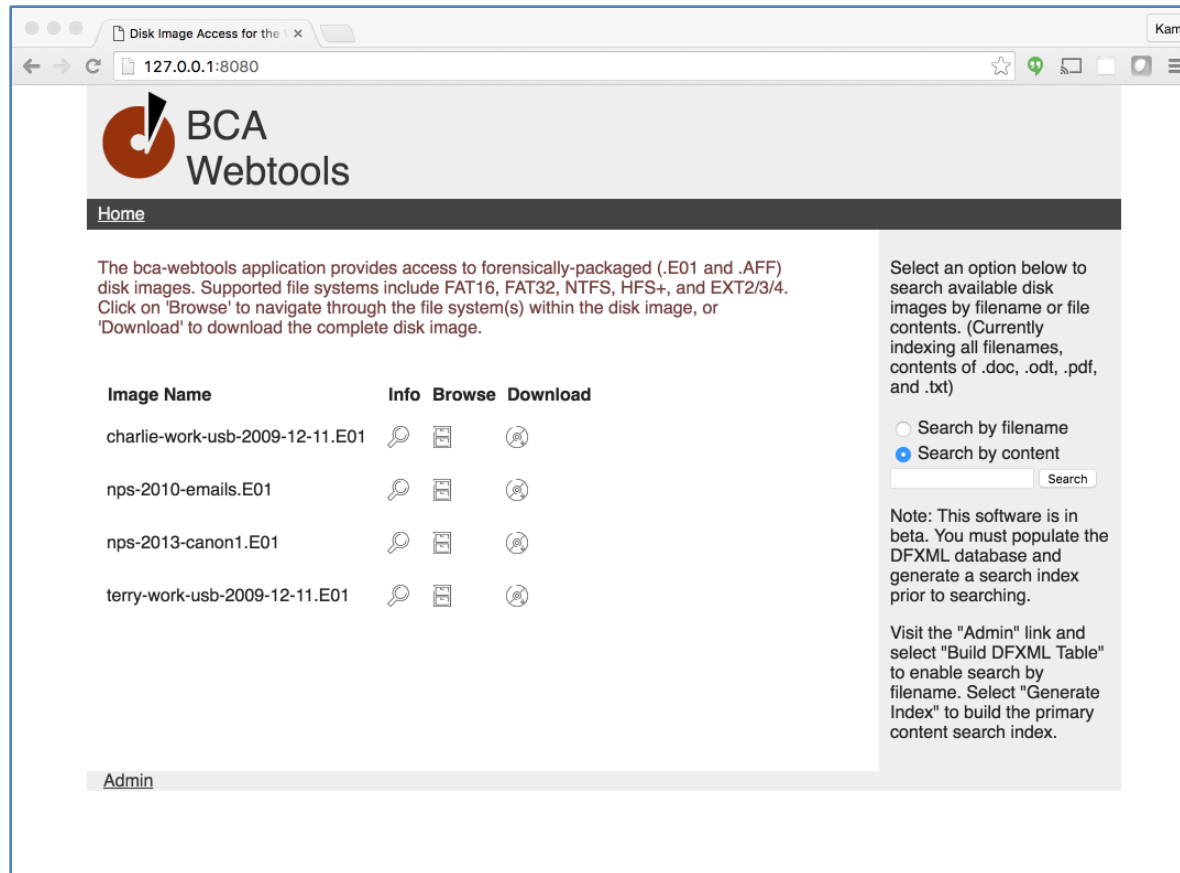
# Getting Started: Navigating to the interface

- In the previous steps, the installation script will provide feedback in the console as it installs each package. If a failure occurs, please contact the bitcurator-users group.
- 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 bca-webtools service running. The first time you bring the service up, you must follow the steps in the next section to enable all browsing and search features.

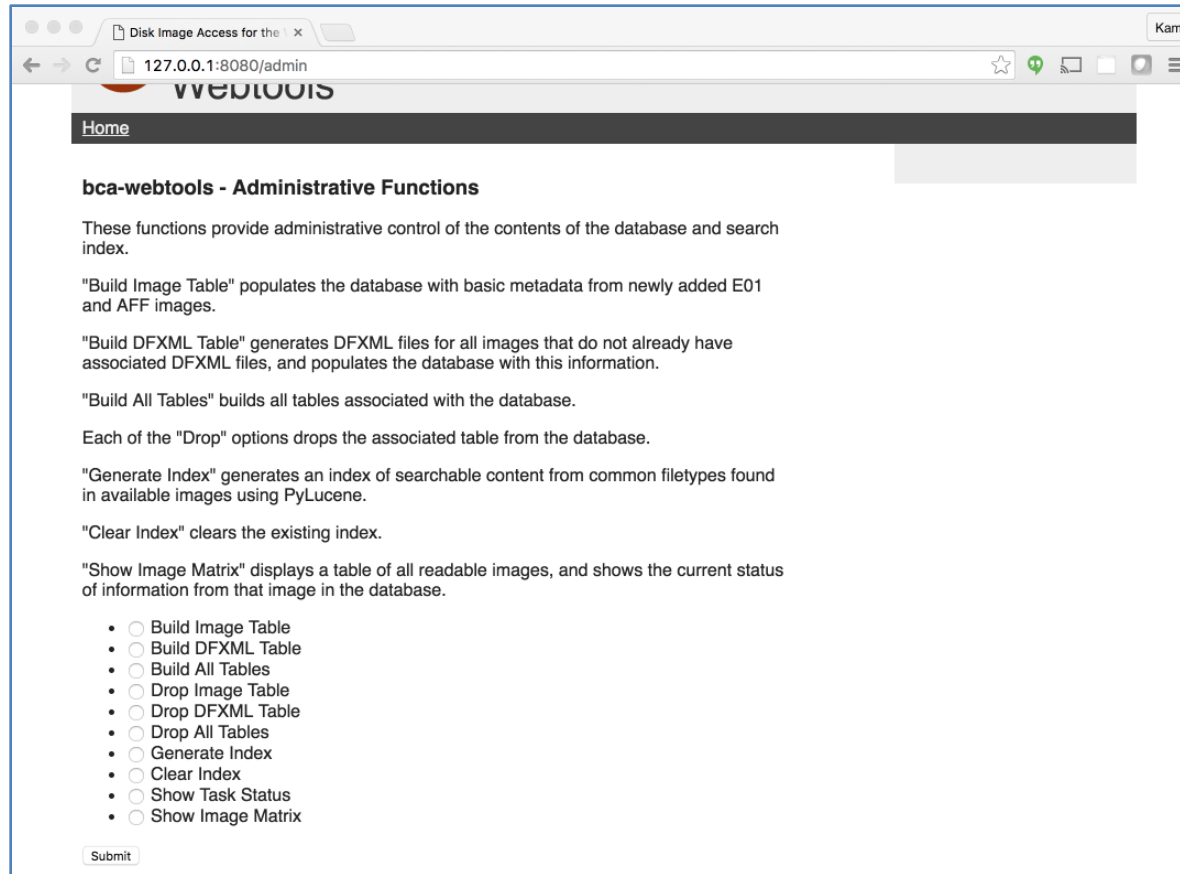
# Getting Started: The main page



You should see a page similar to the one above at **127.0.0.1:8080**. Disk images in your **disk-images** directory should appear in the listing on this page. Click on the appropriate icon for **Info** for a disk images to see embedded metadata (this will be blank for raw disk images). Click on the appropriate icon for **Browse** to browse through the file tree, or **Download** to download the complete disk image.



# Getting Started: Preparing images for search



Browsing and downloading disk images is always available (even when you first start the app), but if you wish to perform full-text search you must populate the appropriate database with information about the file system(s) and extracted text. Click on the **Admin** link at the bottom left, and the page seen above should appear.

# Getting Started: Preparing images for search

Each option is explained by the in-page text. Both the DFXML table and the index are required in order to perform full-text search on disk images. To see the current status of your disk images, select **Show Image Matrix** and click **Submit**. You should see something similar to the following:

• Show Image Matrix

Submit

Image Matrix

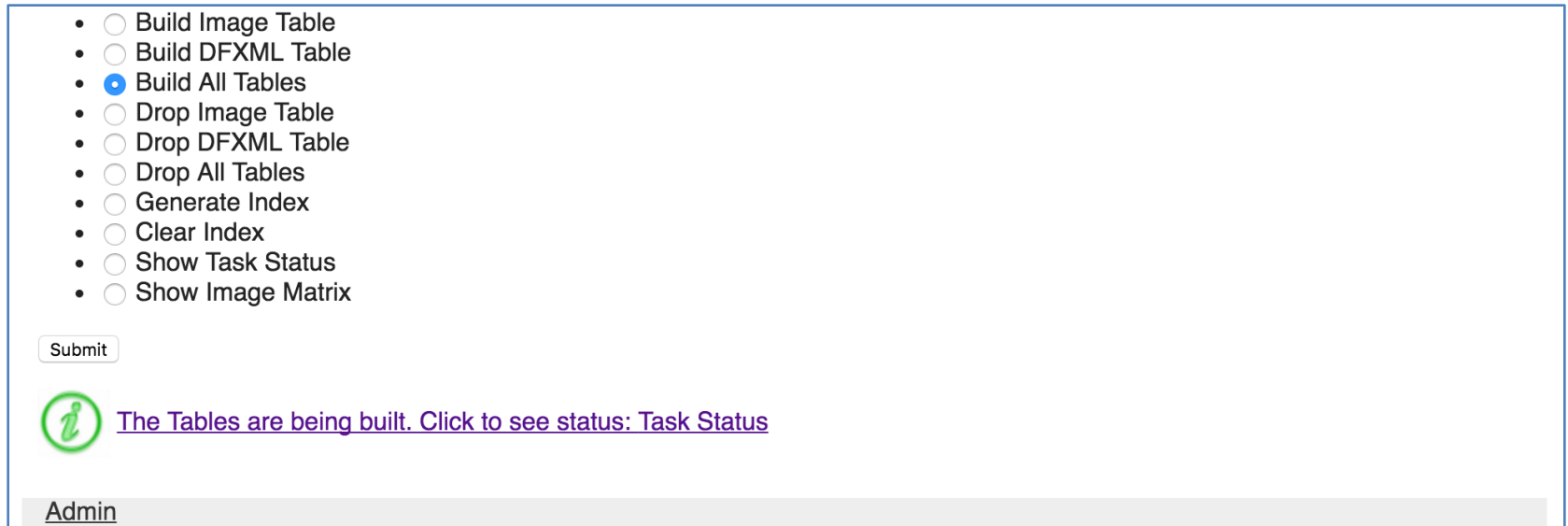
Index	Image Name	Image Table?	DFXML Table?	Indexed?	Add DFXML Table	Drop DFXML Table
0	charlie-work-usb-2009-12-11.E01	True	False	False	<input type="checkbox"/> Add	<input type="checkbox"/> Delete
1	nps-2010-emails.E01	True	False	False	<input type="checkbox"/> Add	<input type="checkbox"/> Delete
2	nps-2013-canon1.E01	True	False	False	<input type="checkbox"/> Add	<input type="checkbox"/> Delete
3	terry-work-usb-2009-12-11.E01	True	False	False	<input type="checkbox"/> Add	<input type="checkbox"/> Delete

[Admin](#)


You may add DFXML and index data for individual images by selecting the appropriate checkbox and clicking **Add**. However, the interface also provides batch commands, including **Build All Tables** (which will simply populate all of the required tables to support browsing and search) and **Generate Index**, which generates the full search index.

# Getting Started: Preparing images for search

Scroll up the page, select **Build All Tables**, and click **Submit**. You should see the following:

A screenshot of a web form with a list of radio buttons. The third option, 'Build All Tables', is selected with a blue dot. Below the list is a 'Submit' button. At the bottom, there is a green information icon followed by a message and a link. The footer of the page shows the word 'Admin' in a grey bar.

- ☐ Build Image Table
- ☐ Build DFXML Table
- ☒ Build All Tables
- ☐ Drop Image Table
- ☐ Drop DFXML Table
- ☐ Drop All Tables
- ☐ Generate Index
- ☐ Clear Index
- ☐ Show Task Status
- ☐ Show Image Matrix

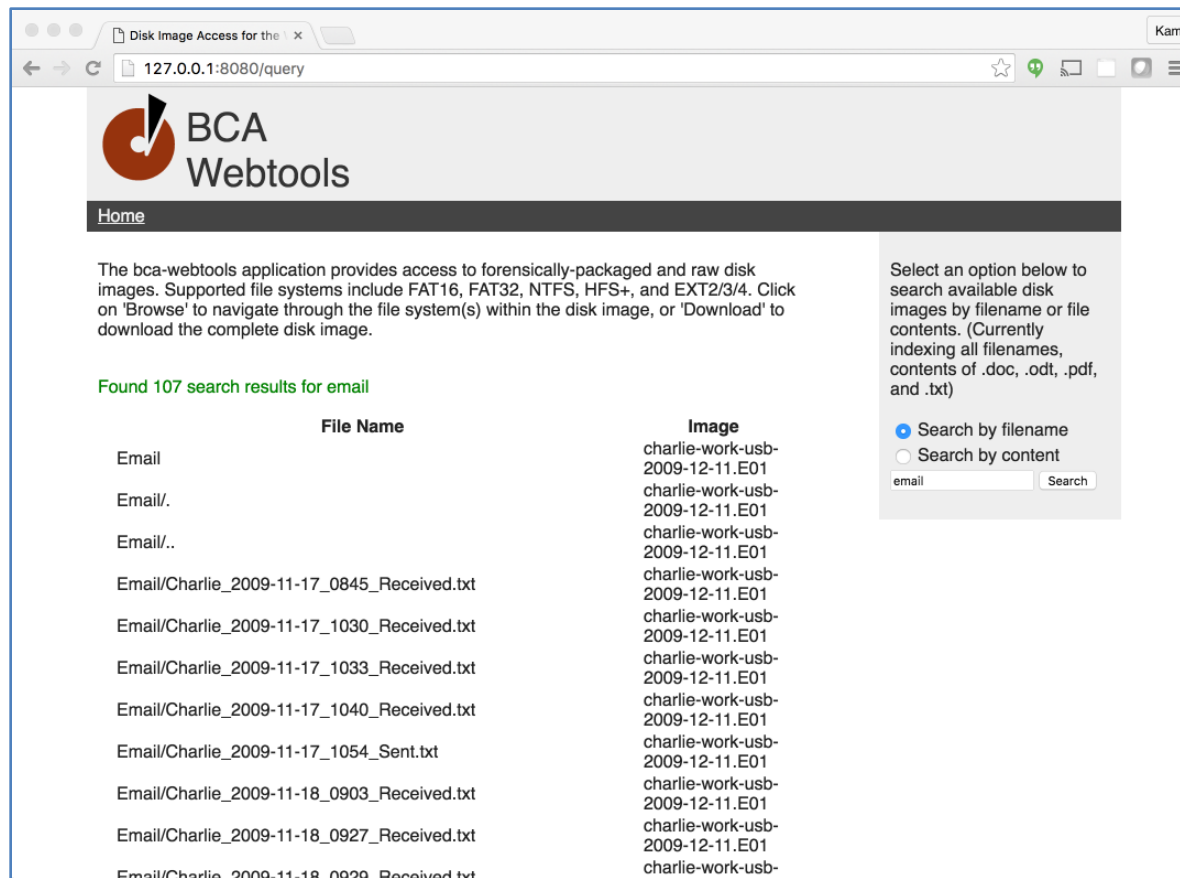
 [The Tables are being built. Click to see status: Task Status](#)

Admin

The tables will be built. If you wish to see the status of the current task, click the link on the bottom, or select **Show Image Matrix** and click **Submit** again to see which actions have been completed. Finally, select **Generate Index** and click **Submit**.

NOTE! Generating the index may take a long time! You can search while the index is being built, but results may be incomplete. You can check the status of the indexing by selecting **Show Task Status** and clicking **Submit** at any time on the **Admin** page.

# Getting Started: Searching

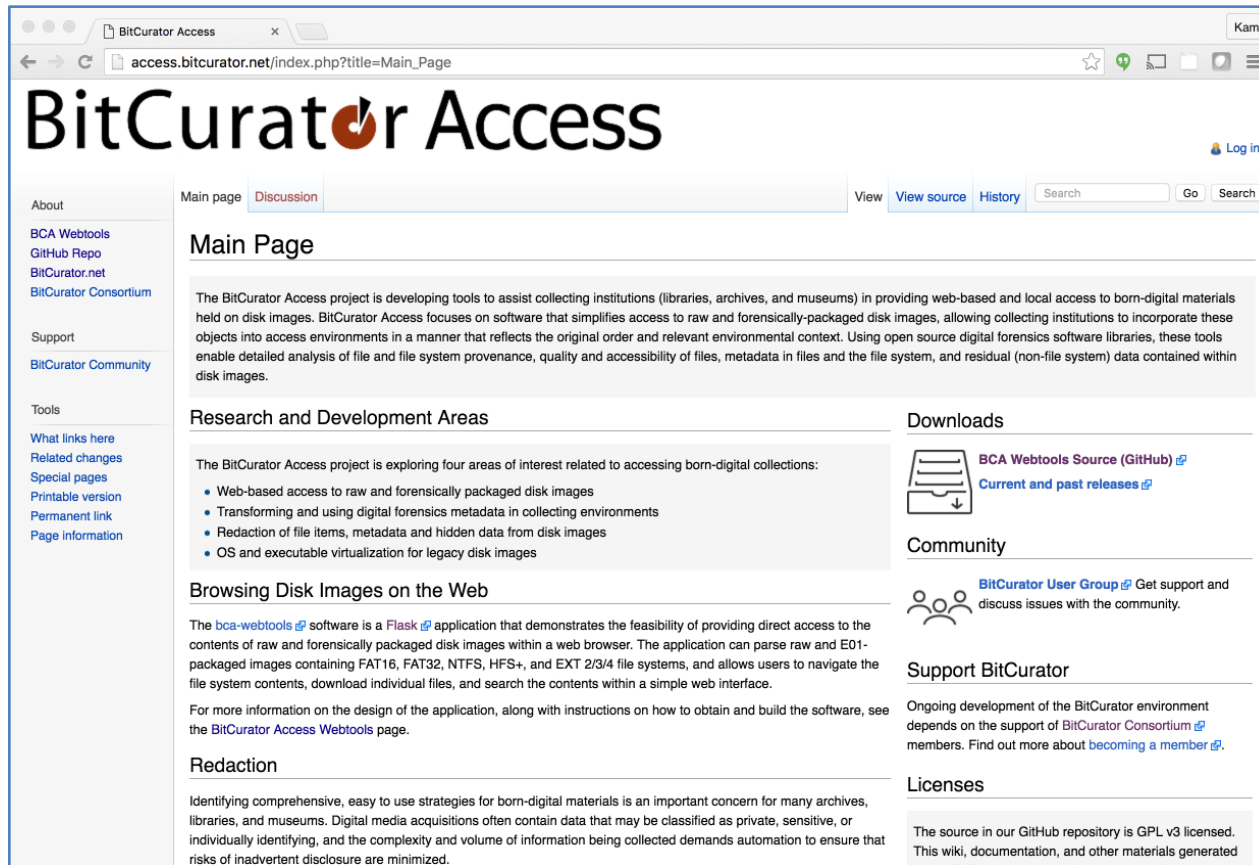


Click **Home** to return to the main page. You can search by filename or content by selecting the appropriate option in the bar on the right. Enter a search term, click **Search**, and the appropriate results will appear in the left hand column by file name and associated disk image.

# Halting and Restarting the Service

- 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 bca-webtools directory as per the earlier instructions before entering this command)
- You can completely delete the virtual machine by typing:  
**vagrant destroy**  
in the bca-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.

# Further Information



More detailed information can be found on our project wiki at <http://access.bitcurator.net/>. Source code and releases can be found on GitHub at <https://github.com/bitcurator/bca-webtools>.