

BNL Box

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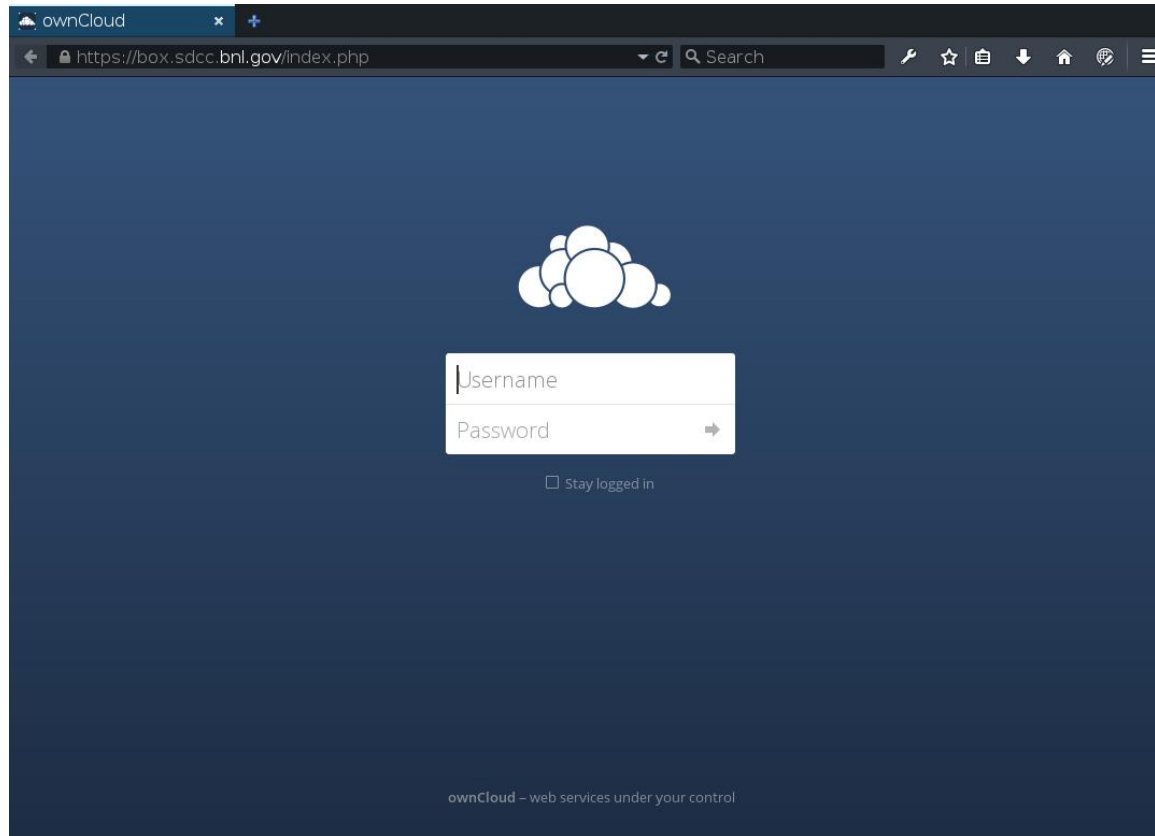
Brookhaven National Laboratory

70 YEARS OF
DISCOVERY

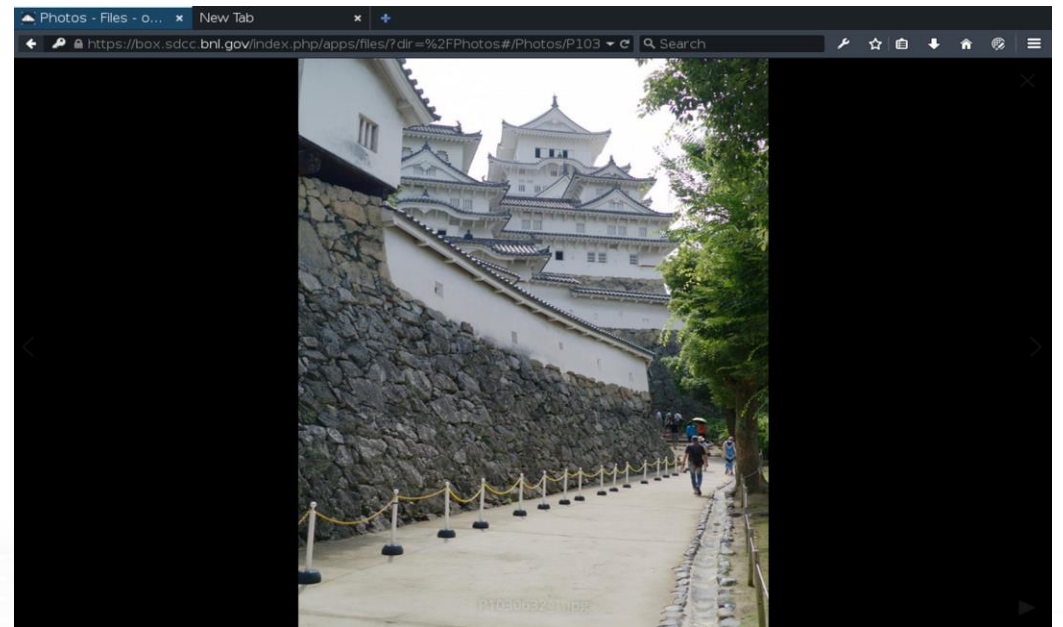
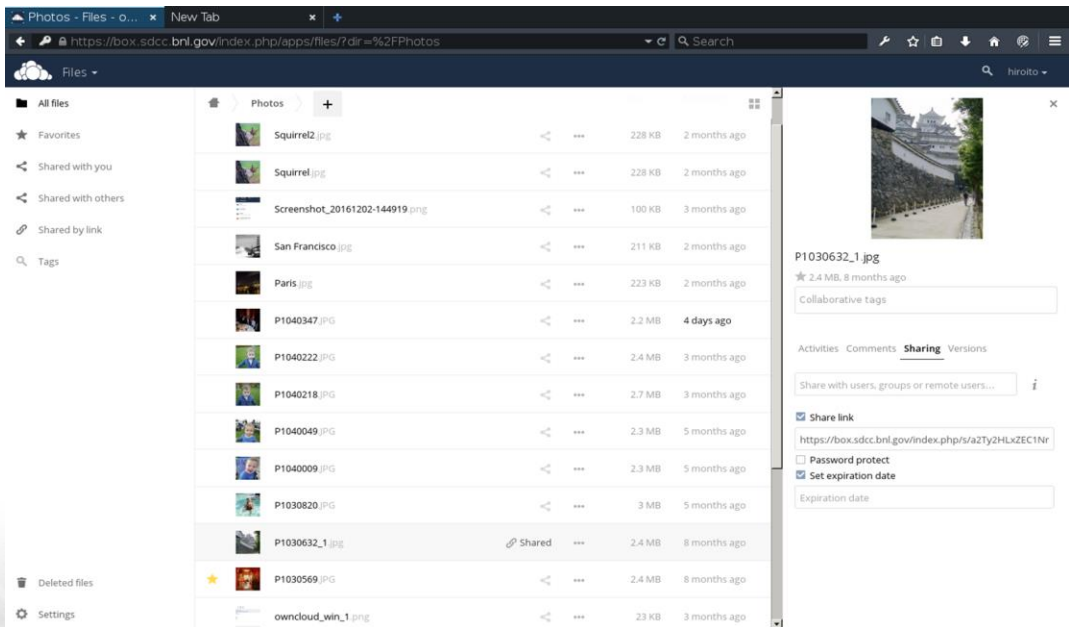
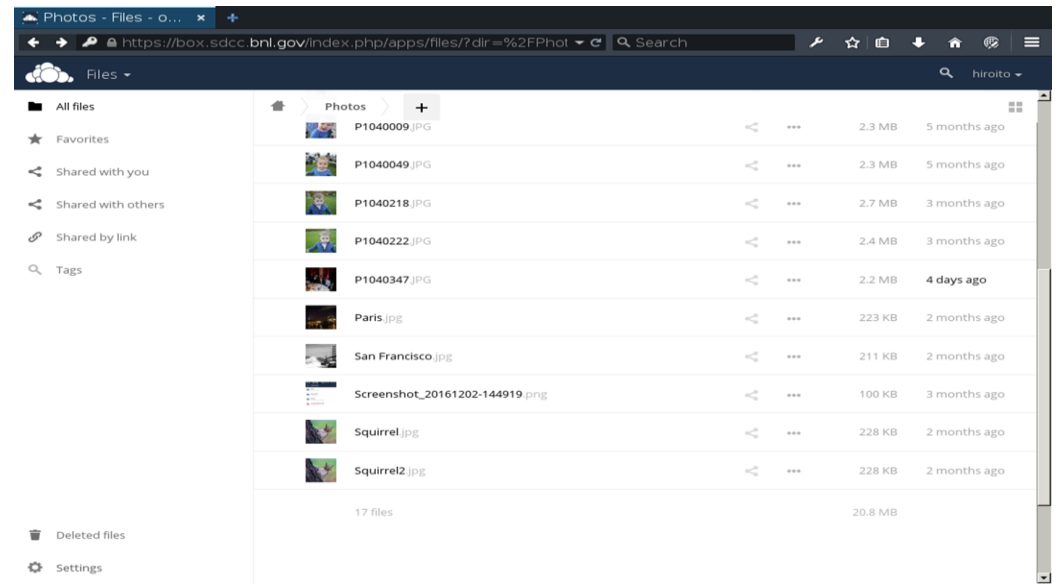
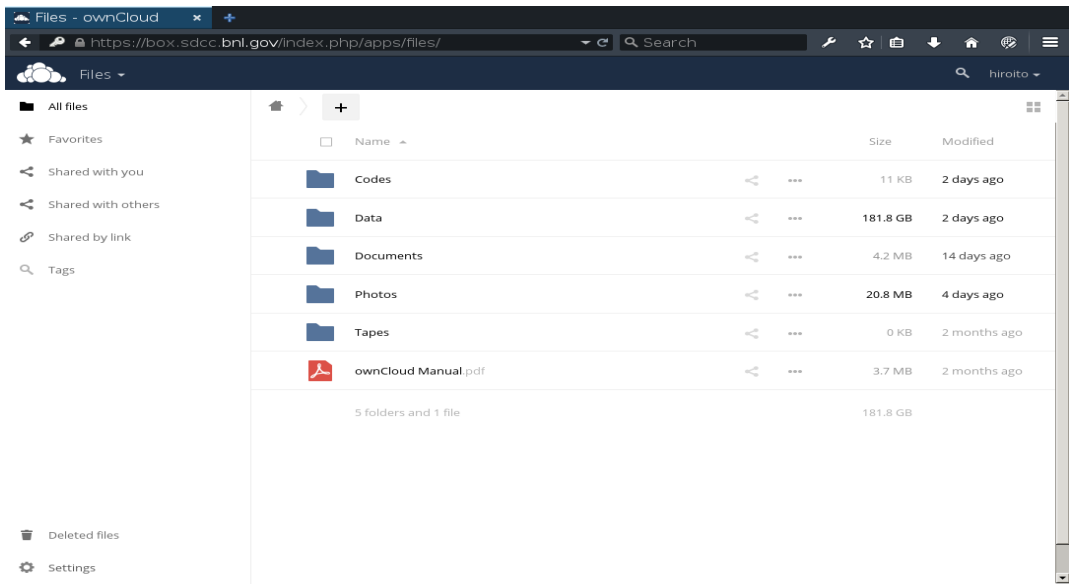
A CENTURY OF SERVICE

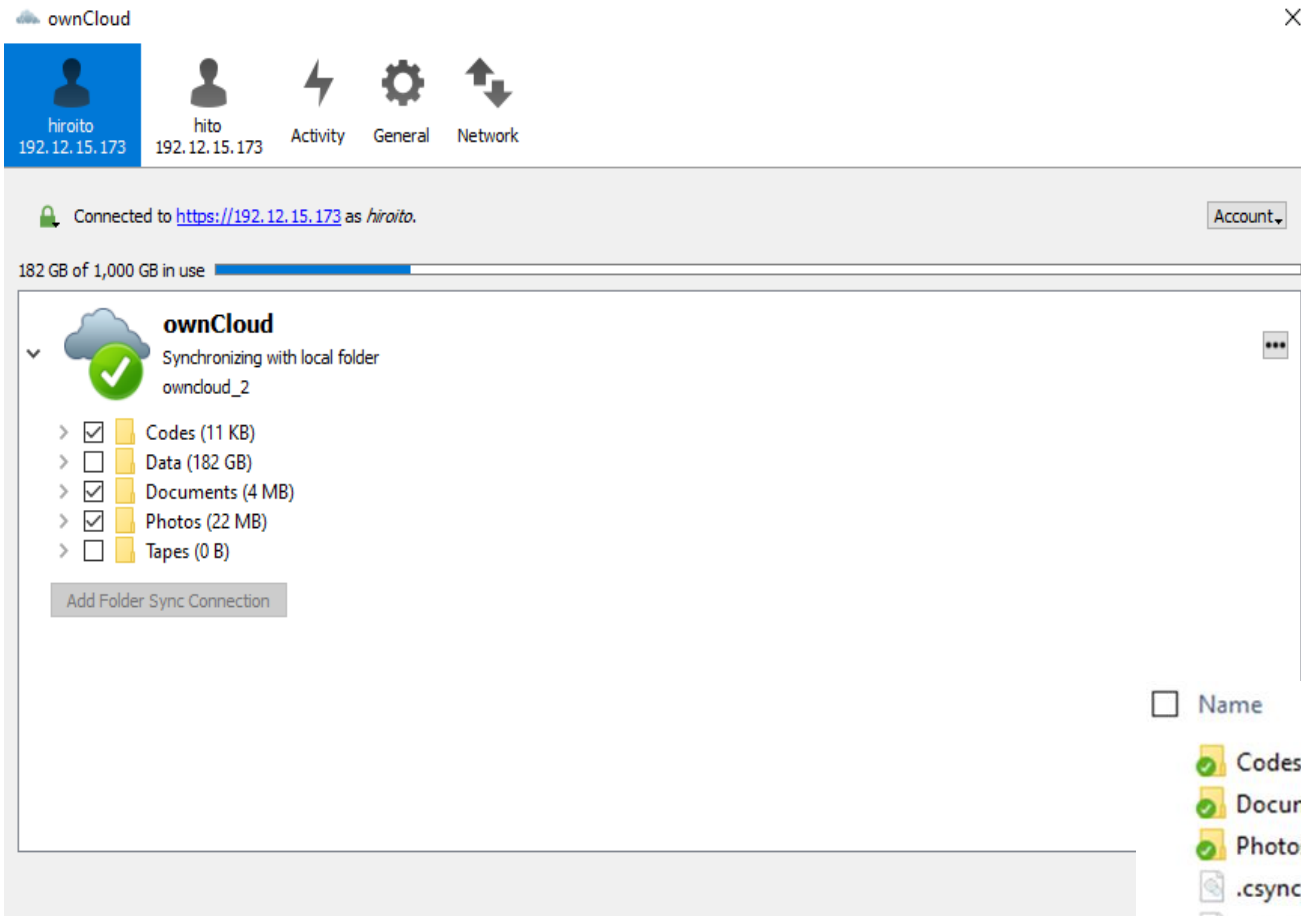


BNL Box



- Cloud storage like Dropbox, Google Drive, Box, MS One drive
- Using Owncloud software.
- Using CephFS as a backend storage.





Using the provided app, one can decide what to sync automatically.

Eg. Example

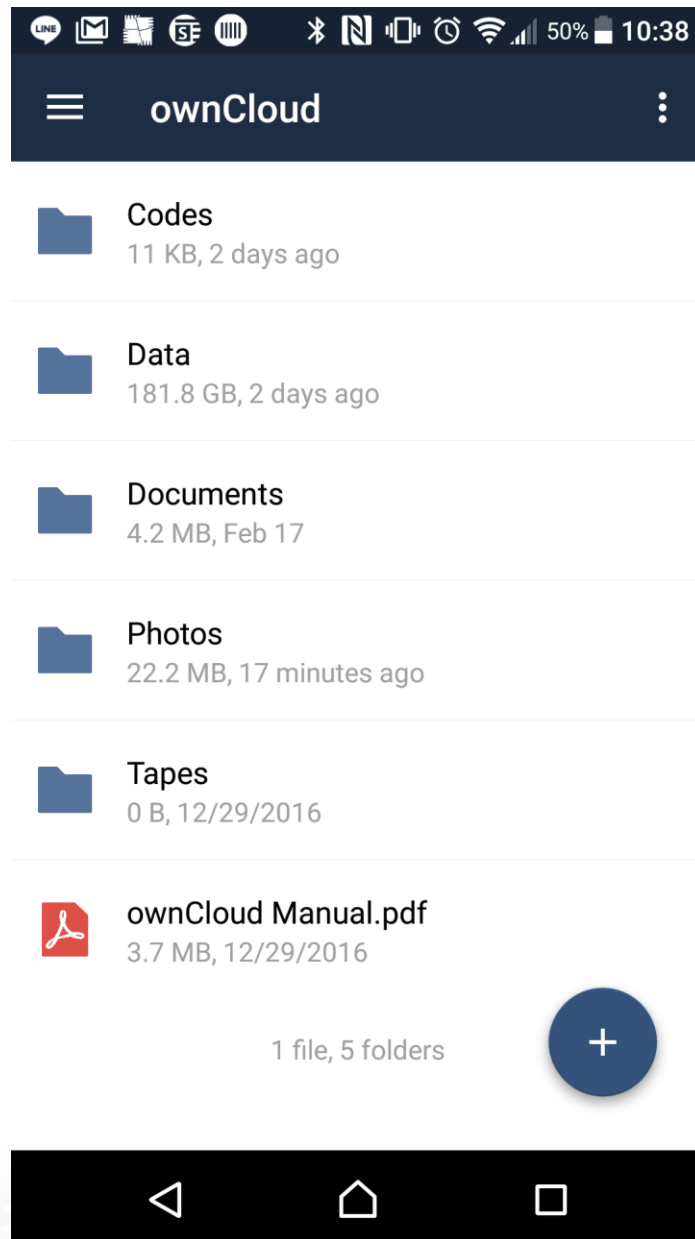
- Data and Tapes directories are not synchronized.
- Codes, Documents, Photos directories are synchronized automatically.

<input type="checkbox"/>	Name	Date modified	Type	Size
<input checked="" type="checkbox"/>	Codes	3/2/2017 10:26 AM	File folder	
<input checked="" type="checkbox"/>	Documents	3/1/2017 4:51 AM	File folder	
<input checked="" type="checkbox"/>	Photos	3/3/2017 10:15 AM	File folder	
<input type="checkbox"/>	.csync_journal	3/3/2017 10:15 AM	Data Base File	92 KB
<input type="checkbox"/>	.csync_journal.db-shm	3/3/2017 10:15 AM	DB-SHM File	32 KB
<input type="checkbox"/>	.csync_journal.db-wal	3/3/2017 10:15 AM	DB-WAL File	0 KB
<input type="checkbox"/>	.owncloudsync	3/3/2017 10:15 AM	Text Document	65 KB
<input checked="" type="checkbox"/>	ownCloud Manual	12/29/2016 2:18 PM	Adobe Acrobat D...	3,822 KB

Desktop/Laptop apps are available in MS Win, Mac and Linux.

They are **free**.

The performance seems to be limited to the maximum of 100MB/s.



Mobile apps are available for Android and iOS.

They cost **\$0.99**

- **Performace**

- Default sync app will sync data at the top rate of 100MB/s.
- 100MB/s is fast enough for documents and photos. But, it is not fast enough for big users with 100TB data.
- Owncloud uses standard WebDAV protocol.
 - Custom client is easy to make.
 - Copy_bnl_box client has been created.
 - It achieves about 150MB/s per file. Using the several concurrent transfers, it can easily achieve the high bandwidth required for big data.
 - NOTE: Different SSL library has a large impact to the performance. Eg.Curl in RHEL 7 is compiled with NSS. It shows 1/5 of the performance with Curl using OpenSSL.

- **Streaming**

- XROOTd will be used to stream data.

- **Tape/Archive**

- User can automatically store data in Tape.
- But, there are some rules.
 - Files in “Tape” directory are considered for archive.
 - Files smaller than 1GB will be tarred.
 - Files staying longer than 2 weeks with the their tar size larger than 100MB will be archived.
 - Once files are archived, they will disappear from the Box storage.
 - Files will be restored in a different directory from HPSS tape system.
 - Separate restore page will be created.
 - File meta data will be stored in their own area.

