**ownCloud Sync Client**

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Reviewed by:

# 2   INTRODUCTION

The ownCloud Sync Client is a desktop program installed on a user's computer.  It allows a user to specify one or more directories on the local machine to sync to the ownCloud server.  It allows the user to always have the latest files wherever they may be.  When a change is made to the file on the computer, it will sync to the ownCloud server via the sync client.

The ownCloud Sync Client is available for Windows, MAC OS X, and various Linux distributions.

## 3   OBTAINING THE CLIENT

The latest version of the Client can be obtained on the ownCloud web site.

The ownCloud client for Windows is provided as a NSIS-based setup file for machine-wide installation.

Installing the ownCloud client on MAC OS follows the normal app bundle installation pattern:

1) Download the installation file: Click `ownCloud-x.y.z.dmg` a window with the ownCloud icon opens.
2) In that window, drag the ownCloud application into the `Applications` folder.
3) On the right side of `Applications`, choose `ownCloud`

The ownCloud client is also provided in a convenient repository for a wide range of Linux distributions.

## 4   SETTING UP AN ACCOUNT

If no account has been configured, the ownCloud Client will automatically assist in connecting to the ownCloud server after the application has been started.

The first step is to enter the URL to the ownCloud server.  This is the same address that is used in the browser.
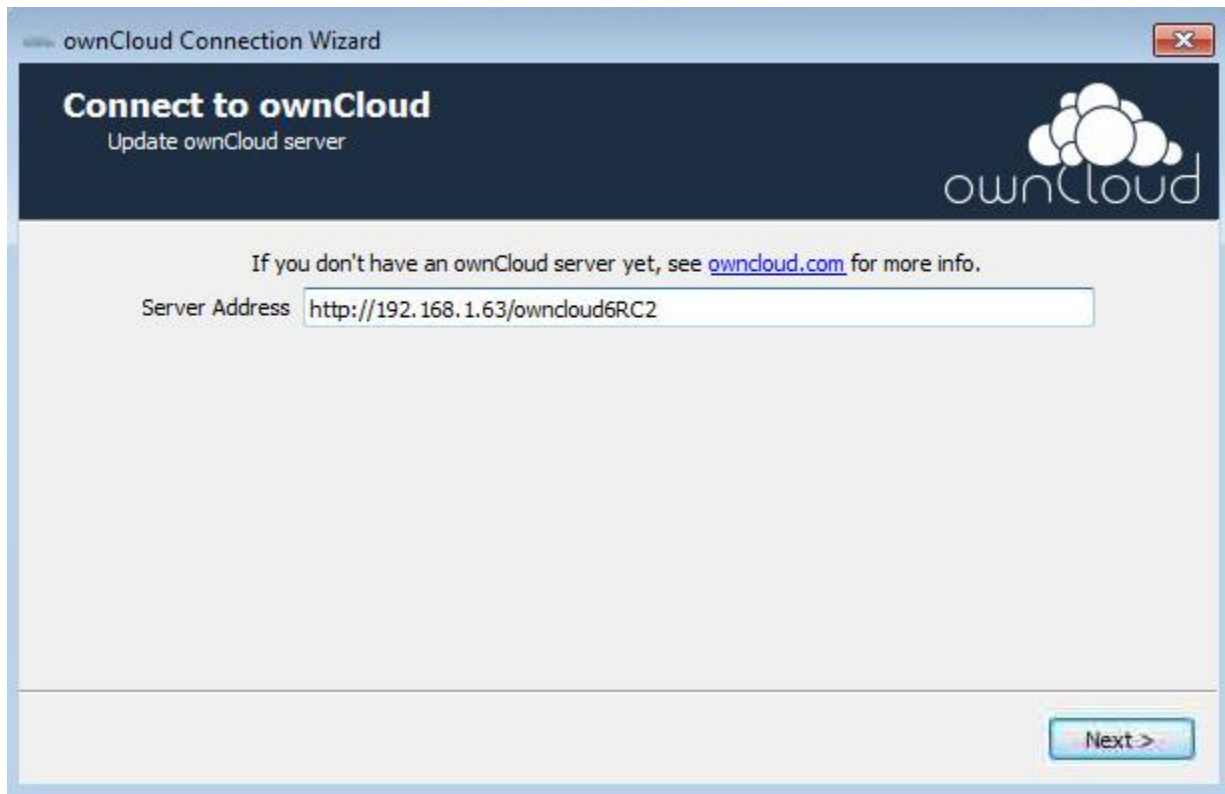


Next, enter the username and password.  These are the same credentials used to log into the web interface.
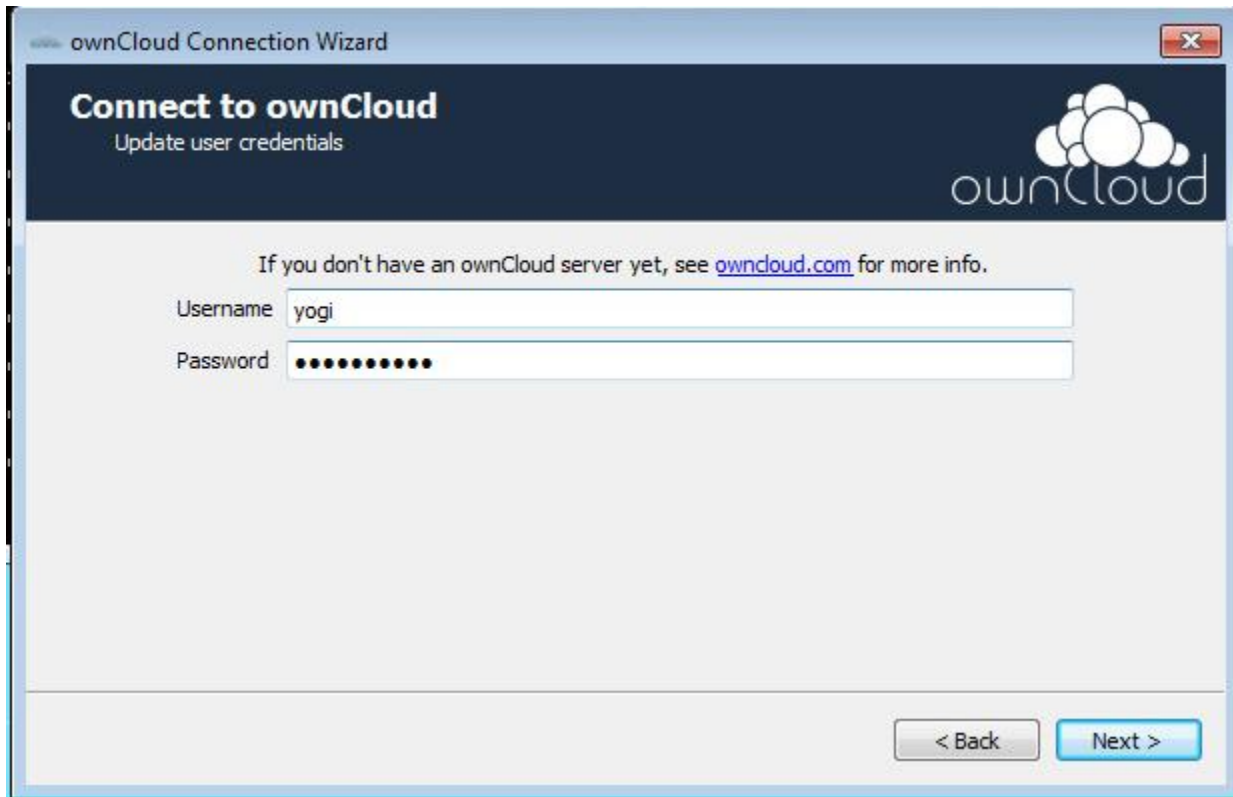
Finally, select the folder that the ownCloud Client will sync the contents of the ownCloud account with. By default, this folder is called ownCloud, which resides in the home directory.
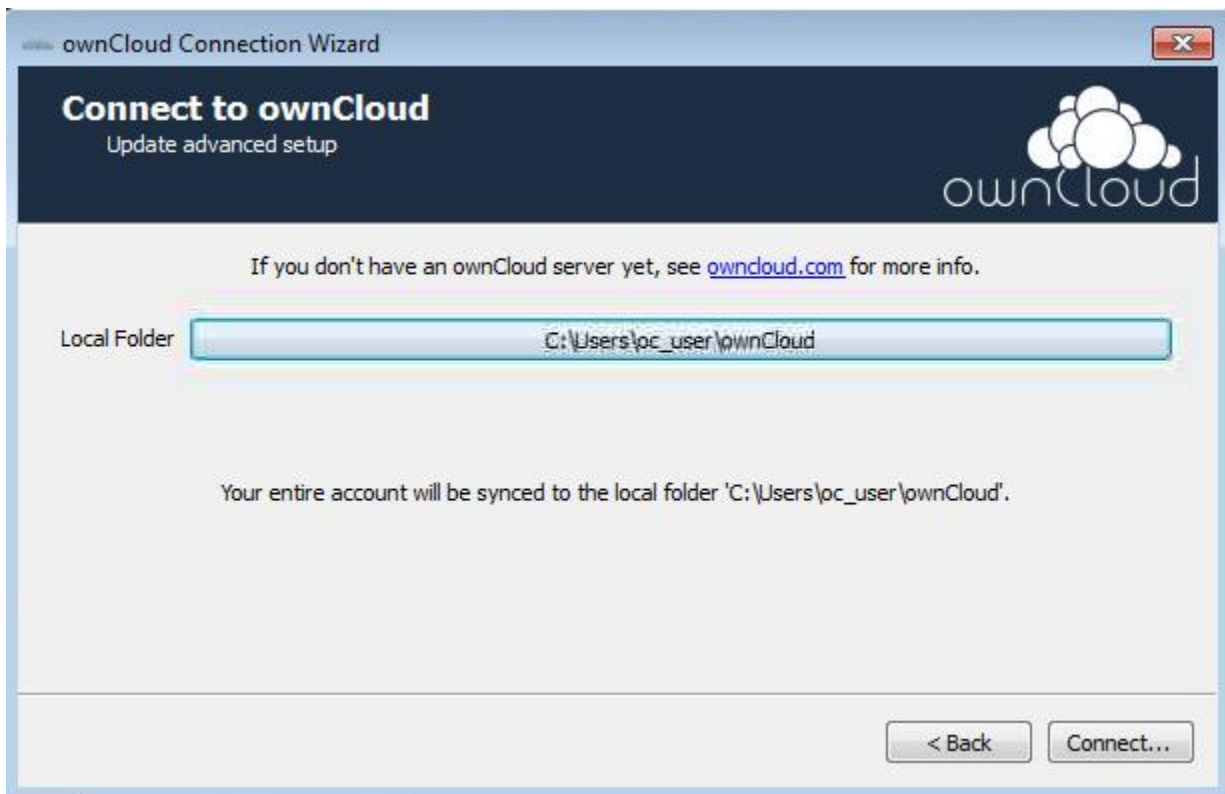
At this time, the synchronization between the root directories of the ownCloud server will begin.

If selecting a local folder that already contains data, there are two options that exist.
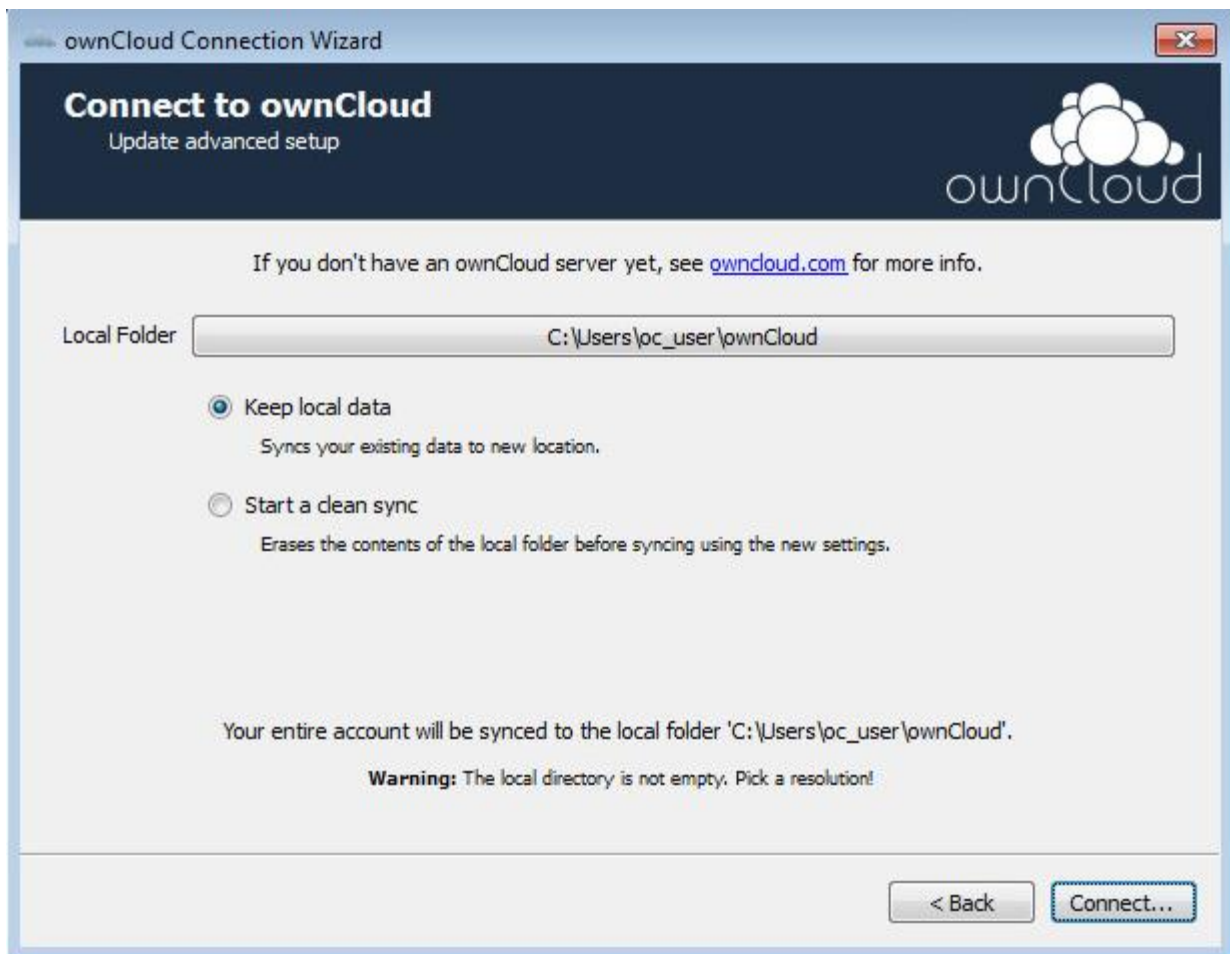


- Keep local data: If selected, the files in the local folder on the client will be synced up to the ownCloud server.
- Start a clean sync: If selected, all files in the local folder on the client will be deleted and therefore not synced to the ownCloud server.
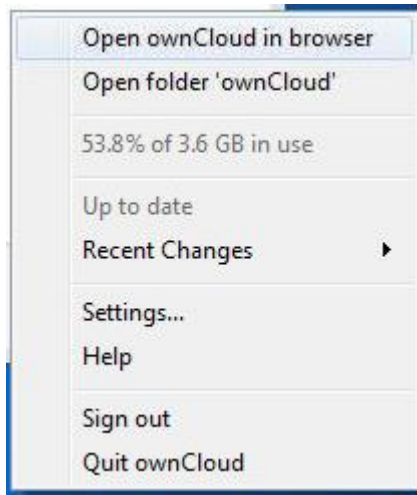
# 5   VISUAL TOUR

## 5.1   ICON

The ownCloud Client remains in the background and is visible as an icon in the system tray (Windows, KDE), status bar (MAC OS X), or notification area (Ubuntu).

## 5.2   MENU

A right click on the icon provides the following menu.



Where:

- Open ownCloud in browser: Opens the ownCloud web interface.
- Open folder 'ownCloud': Opens the local folder.  If multiple sync targets have been defined, an entry will exist for each local folder.
- Disk Space Indicator: Shows how much space is used on the server.
- Operation indicator: Shows the status of the current sync process, or 'up to date' if the client and server are in sync.
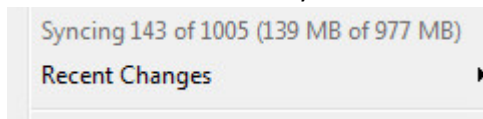


- Recent changes: shows the last six files modified by sync operations and provides access to the Sync Activity window which lists all changes since the last restart of the ownCloud client.
- Settings…: Provides access to the settings menu.  Same result as a left click on the icon.
- Help: Opens a browser to display the documentation.
- Sign out: Signs the client out of the server.
- Quit ownCloud: Quits ownCloud, ending a currently running sync.

## 5.3   SETTINGS
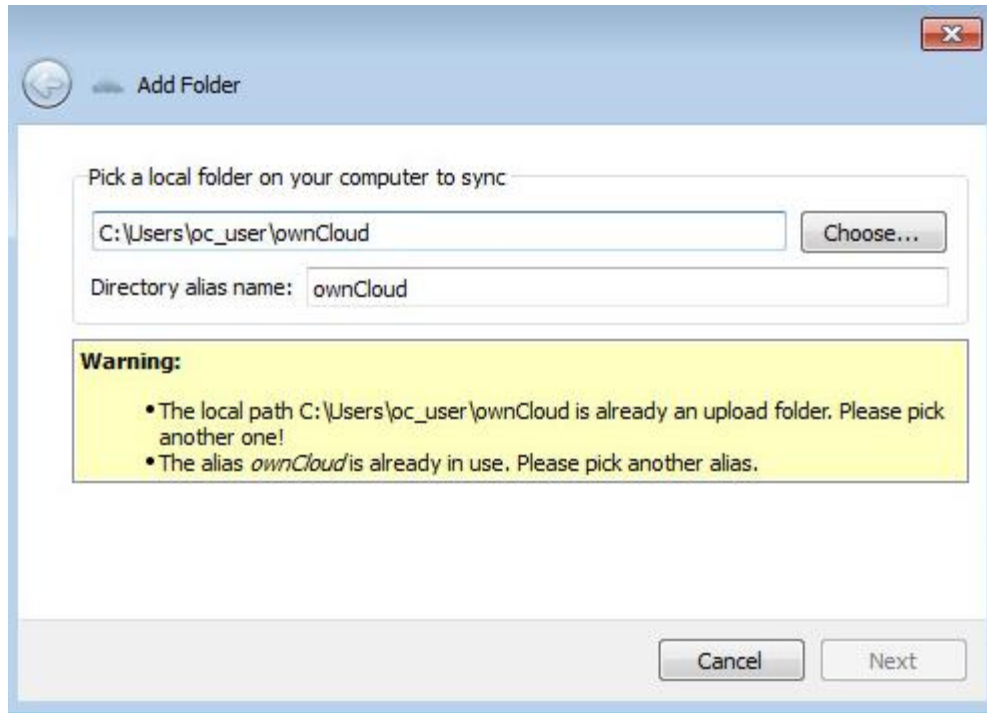
### 5.3.1   Account Settings

The Account Settings tab provides an executive summary about the synced folders in the account and gives the ability to modify them.
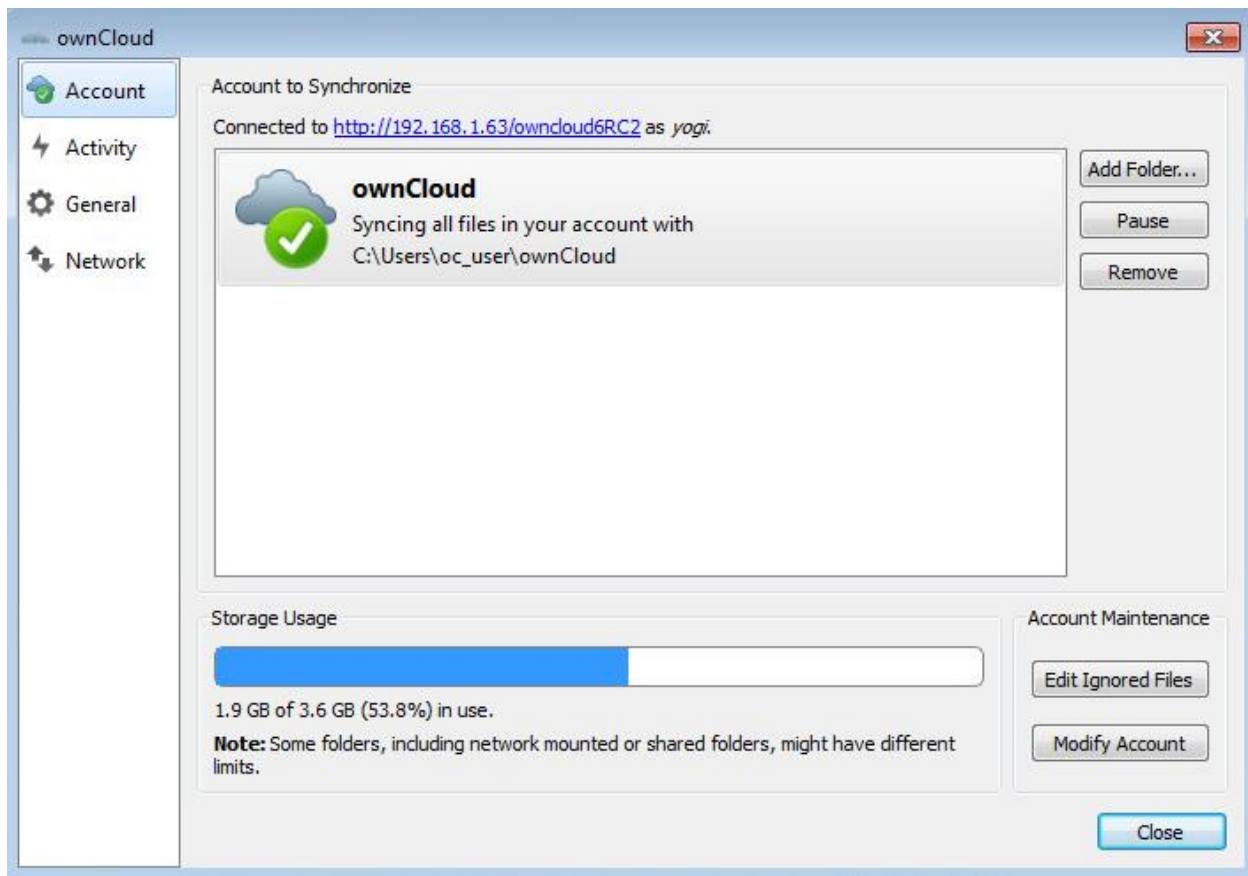
Where:

- "Connected to <ownCloud instance> as <user>": Indicates the ownCloud server which the client is syncing with and the user account on that server.
- Add Folder...: Provides the ability to add another folder to sync.

The Directory and alias name must be unique.
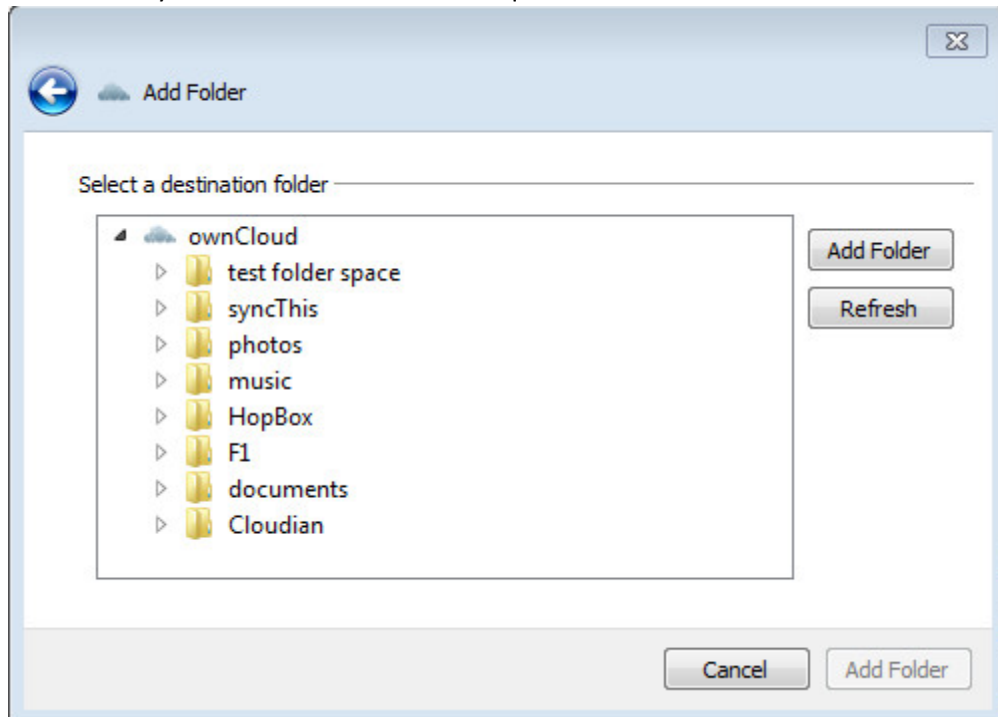


Select the folder on the server to sync with.  It is important to note that, a server folder can only sync to the client one time.  So, in the above example, the sync is to the server root directory and thus it is not possible to select another folder under the root to sync.

- Pause/Resume: will pause the current sync or prevent the client from starting a new sync. Resume will resume the sync process.
- Remove:  Will remove the selected folder from being synced.  This is used, for instance, when there is a desire to sync only a few folders and not the root.  First, remove the root from sync, then add the folders to sync as desired.
- Storage Usage: Provides further details on the storage utilization on the ownCloud server.
- Edit Ignored Files: provides a list of files which will be ignored, ie will not sync between the client and server.  The ignored files editor allows adding patterns for files or directories that should be excluded from the sync process.  Besides normal characters, wild cards may be used, an asterisk '*' indicating multiple characters, or a question mark '?' indicating a single character.
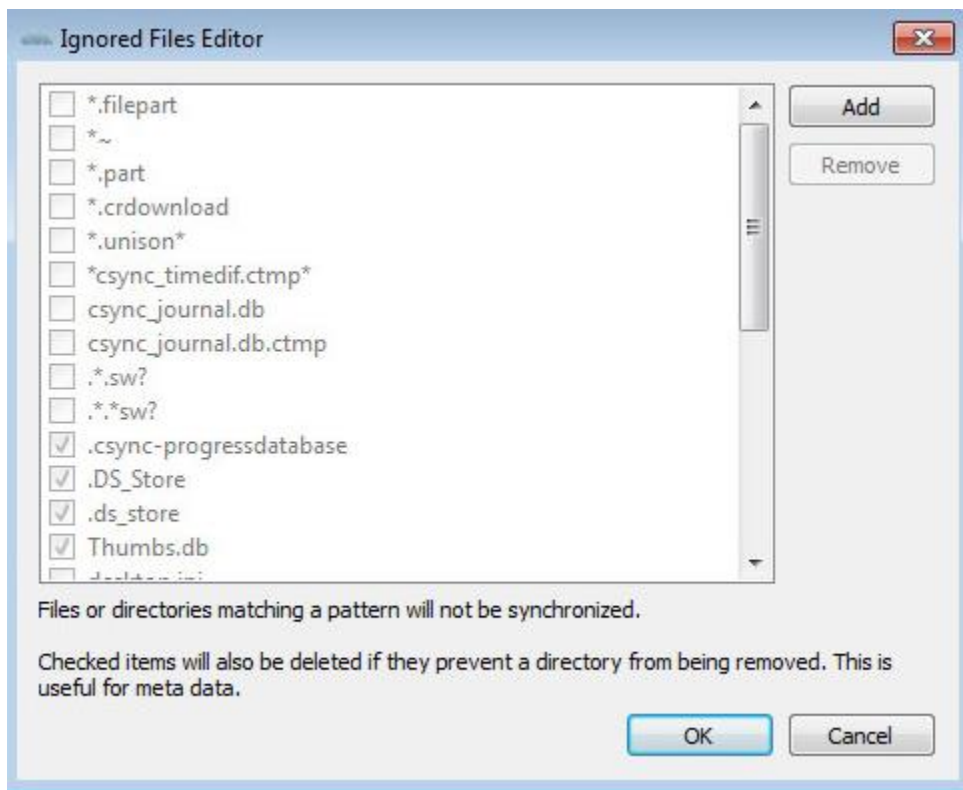


- Modify Account: Allows the user to change the ownCloud server being synced to.  It brings up the Setting up an Account (section 4 above) windows.

### 5.3.2   Activity

The Activity window, which can be invoked either from the main menu (`Recent Changes -> Details…`) or the Activity tab on the left side of the settings window, provides an in-depth account of the recent sync activity.  It will show files that have not been synced because they are on the ignored files list, or because they cannot be synced in a cross-platform manner due to containing special characters that cannot be stored on certain file systems.
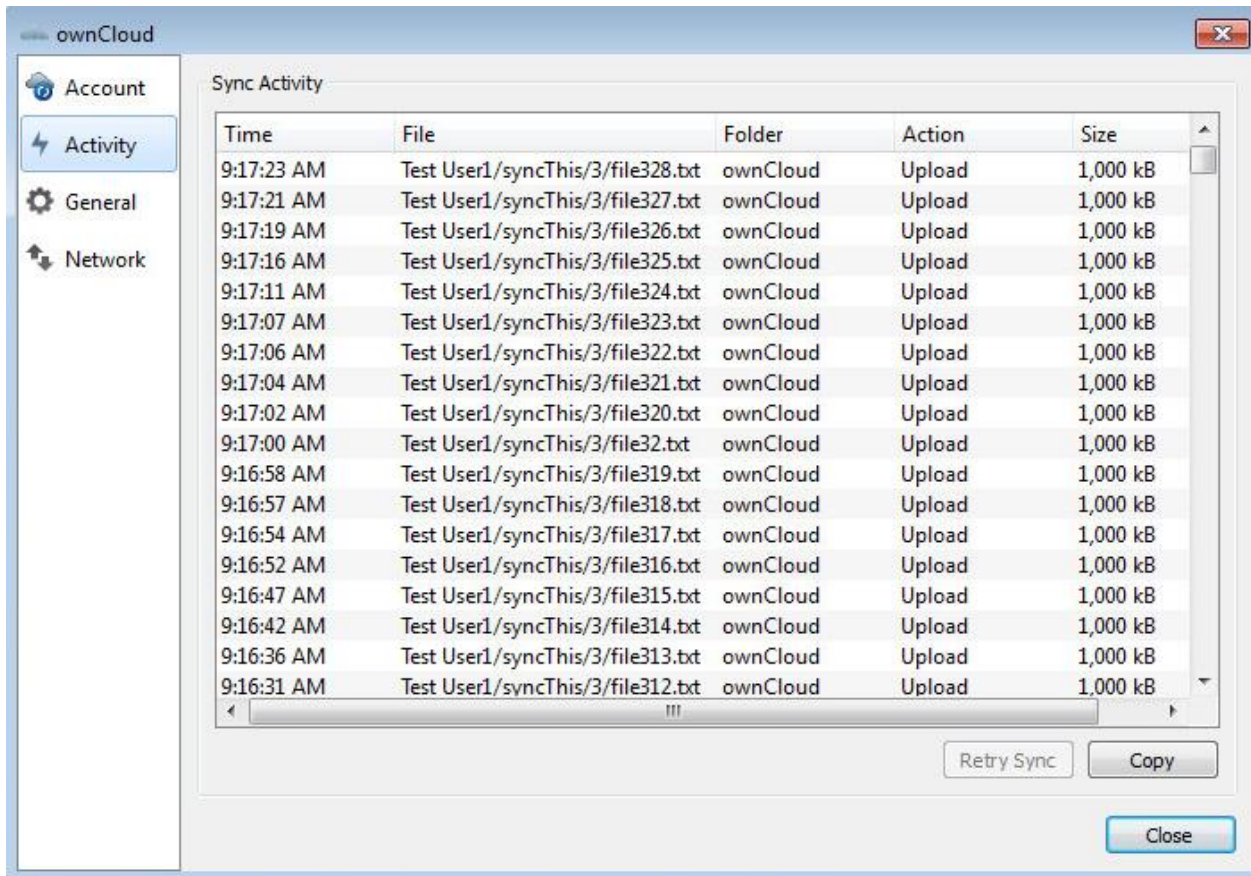
### 5.3.3    General
This tab provides several options:
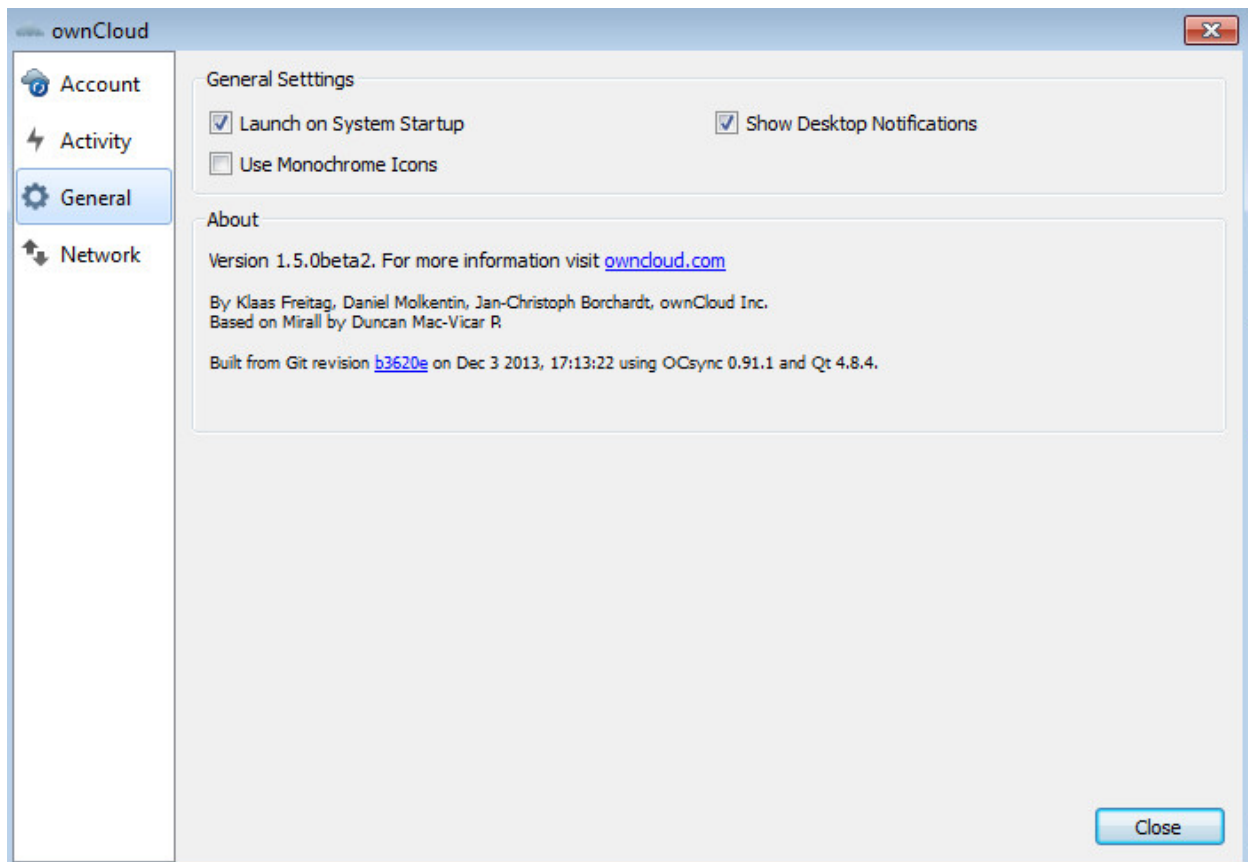
- Launch on System Startup: This option is automatically activated once a user has created his account.  Unchecking this box will cause the ownCloud client to not launch on startup for a particular user.
- Show Desktop Notifications: When checked, bubble notifications when a set of sync operations has been performed are provided.
- Use Monochrome Icons: Use less obtrusive icons.  Especially useful on MAC OS.
- About: provides information about authors as well as build conditions.  This information is valuable when submitting a support request.

### 5.3.4    Network
This tab contains proxy settings and bandwidth limiting settings.
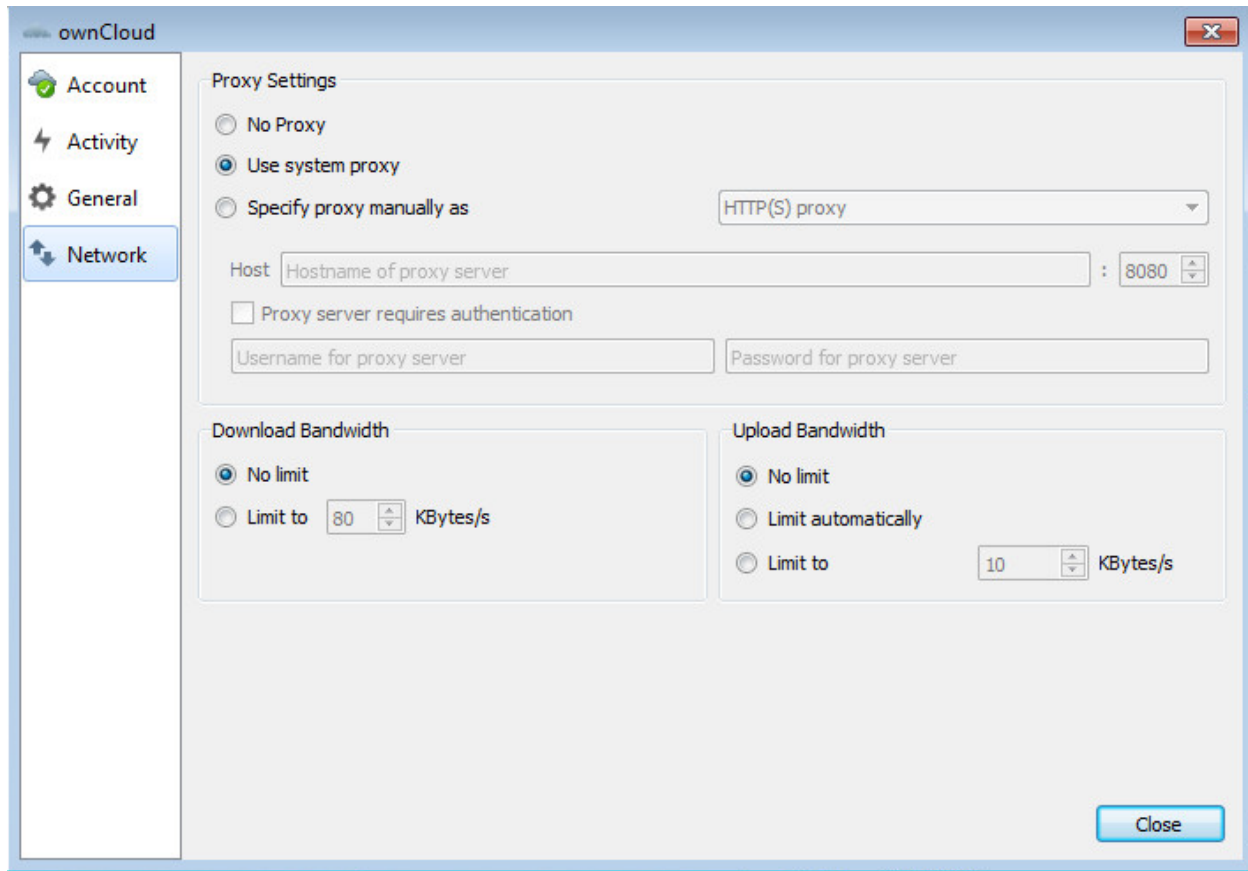
### 5.3.4.1   Proxy Settings

- No Proxy: Check this if the ownCloud client should circumvent the default proxy on the system.
- Use system proxy: Default value.  This will follow the system's proxy settings.  On Linux it will use the value of the variable `http_proxy`.
- Specify proxy manually as: Allows to specify custom proxy settings.  If it is required to go through a HTTP(S) proxy server.  SOCKSv5 on the other hand is useful in special company LAN setups, or in combination with the OpenSSH dynamic application level forwarding feature.
- Host: Enter the host name or IP address of the proxy server followed by the port number.  HTTP proxies usually listen on ports 8080 (default) or 3128.  SOCKS server usually listens on port 1080.
- Proxy server requires authentication: Should be checked if the proxy server does not allow anonymous usage.  If checked, a username and password must be provided.

### 5.3.4.2   Bandwidth Limiting

The Download Bandwidth can be either unlimited (default) or limited to a custom value.  This is the bandwidth available for data flowing from the ownCloud Server to the client.

The Upload Bandwidth, the bandwidth available or data flowing from the ownCloud client to the server, has an additional option to limit automatically.  When this option is checked, the ownCloud client will surrender available bandwidth to other applications.  Use this option if there are issues with real time communication in conjunction with the ownCloud Client.

# 6  ADVANCED USAGE

## 6.1  OPTIONS

When invoking the client from the command line, the following options are supported.  The invocation must be done as the admin user on Windows.

- -h, --help: opens a window showing all the below options.
- --logwindow: open a window to show log output.
- --logfile <filename>: write log output to file <filename>.
- --logdir <name>: write each sync log output to a new file in directory <name>.
- --logexpire <hours>: removes logs older than <hours> hours.  To be used with –logdir
- --logflush: flush the log file after every write.
- --confdir <dirname>: Use the given configuration directory.

## 6.2  CONFIG FILE

The ownCloud client reads a configuration file for certain parameters.

The locations of the config file is as follows:

- Linux:   $HOME/.local/share/data/ownCloud/owncloud.cfg
- Windows:   %LOCALAPPDATA%\owncloud\owncloud.cfg
- MAC:   $HOME/Library/Application Support/owncloud

The following parameters contained within the config file may be modified:

- remotePollinterval (default 30000): Poll time for the remote repository in milliseconds
- maxLogLines (default 20000): Maximum count of log lines shown in the long window.

## 6.3  COMPARISON AND CONFLICTS

In a sync run, the client must detect if one of the two repositories have updated files.  On the local repository, the client traverses the file tree and compares the modification time of each file with the value it was before.  The previous value is stored in the client's database.  If it is not, it means the file was recently added to the local repository.  Note that on the local side, the modification time is a good attribute to detect changes because it does not depend on time shifts.

For the remote (ie ownCloud server) repository, the client compares the ETag of each file with its previous value.  Like the client, the previous value is obtained from a database query.  If the ETag is the same, the file has not changed.

In case a file has changed on both, the local and remote repositories, since the last sync run, it cannot be determined which version of the file should be used.  However, it is important not to lose any of the changes.

This is called a conflict case.  The client resolves it by creating a conflict file of the older of the two files and saves the newer one under the original file name.  Conflict files are always created on the client and not the server.  The conflict file has the same name as the original file appended with the timestamp of the conflict detection.

## 6.4   IGNORED FILES

The ownCloud client will not sync the following files:

- Files matching one of the patterns in the Ignored Files Editor.
- Files containing special characters that do not work on certain file systems.
- Files starting in the .csync_journal.db (reserved for journaling).
- Files whose complete path is greater than 256 characters will cause an error and not sync.