Druvaa inSync Version 3.1

Client User's Guide

Last Updated : Octobre 09

Microsoft Windows XP
Microsoft Windows Vista
Ubuntu Linux 7+
Fedora Core 8+

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PREFACE

This document describes in detail, the Druvaa inSync product and explains how to install and manage all its components.

Chapter 1 explain in brief, the inSync product and its features. Chapter 2 to 4 explains installing and administrating inSync Client on supported platform. And then towards the end of the document chapters 5 to 7 takes you through troubleshooting tips and getting support for the product.

INTENDED AUDIENCE

This document is meant for users of the inSync client. This document assumes that the readers have the following necessary skills:

        Windows® XP/Vista user skills
        Linux user skills

TYPOGRAPHIC Conventions Used

The following typographic conventions are used in this document:

Symbol	Meaning
Blue text	URLs and emails
Bold	Strong/Emphasis/ GUI Options
Filename	Filenames/ User input

GETTING HELP

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1 Introduction

Enterprises today significantly rely upon the corporate data stored on the PCs. Prevalence of multimedia content, thousands of emails and attachments, proliferation and preservation of many versions and copies of data contributes to the tremendous data growth most companies are experiencing.

More than 80% of this PC data is common within organizations. For data generated by conventional office applications, where many of the file characteristics are very similar, the potential for reduction is very high.

With inSync you can greatly reduce the risks and costs of data loss and minimize recovery time for distributed PCs and laptops. Druvaa inSync PC backup solution uses advanced *distributed data deduplication* technology called – **"SendUnique"** to reduce the volume of backed-up data up to 90 percent. This decreases the time, bandwidth and storage needed for backup and recovery. This results in significant time and cost savings for the enterprise.

Druvaa inSync has two components –
 1. Druvaa inSync Server

 2. Druvaa inSync Client

Druvaa inSync Enterprise Backup Server is installed on a central server reachable by all the users over LAN, VPN or WAN. Druvaa inSync Client is installed on all the PCs within an enterprise. Both the components are amazingly easy to set up.

The inSync client monitors file changes in configured folders and then, on availability of network connection –
 1. Prepares a fingerprint of changed files and sends it to the server.

 2. Server responds back with the parts of files unique to the client i.e. those parts of files not backed up by any other user in the organization.

 3. The client then compresses, encrypts and sends only the unique data to the server.
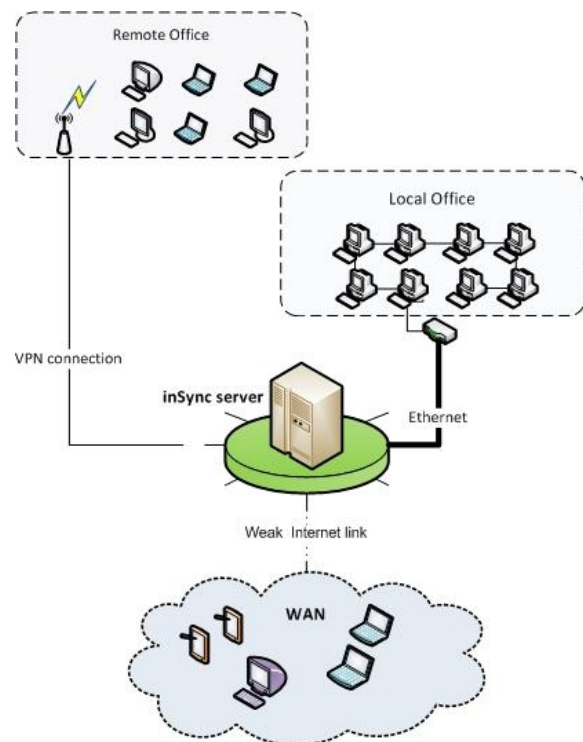
All of this is transparent to the user. The user only notices a fast backup consuming less bandwidth. On restore, the user is shown only his files and how they have changed in the past. The user can choose to restore files from any point in the past.

1.1 Druvaa inSync Features

Druvaa inSync is extremely versatile and easy to use. Some of the key product highlights are as follows:

1. **Data deduplication** – Saves 90% backup time, bandwidth and storage.

2. **Continuous Data Protection –** Never lose a file. Ever. Timeline based, from the past restores.

3. **TrueSecure –** Secure, client triggered backups. Network and storage encrypted.

4. **NetworkSense –** Automatic network prioritization and bandwidth scheduling.

5. **Full PC Backup –** Backup complete PC with operating system, application, data and settings. Restore using a bootable bare-metal restore disk.

6. **Search –** Search your files in restore for faster recovery

The other key features of inSync are as follows:

1. Usability

    1. **Easy**, automated installation and transparent non-intrusive backups.

    2. **Opportunistic Scheduling** starts sync on availability of bandwidth, during missed schedules.

    3. **Intuitive graphical interface** to manage and monitor backup policies, either over the corporate network or over the WAN.

    4. **Locked/Open File Support –** Integrates with Microsoft volume shadow service to sync locked files like Outlook working files (PST files).

    5. **Web Restore –** browser based restore when user is not on his PC.

2. WAN Optimization

    1. Powerful built in **WAN optimization** and bandwidth scheduler.

    2. **Advanced Compression.**

3. Administration

    1. **User Profiles** facilitates the administrator to view/guide/control users configuration.

    2. **Manage storage capacity** and user quota.

    3. **Live server health** and user backup statistics.

    4. **Admin configurable backup folders** for automated backup planning for large organizations.

    5. **Configurable trigger based reporting** architecture, enables queries for relevant information.

    6. **Email notifications** for detailed reports.

2 Install Druvaa inSync Client

2.1 Installation Prerequisites

The following are the installation prerequisites for inSync client –

1. Operating system
    a. Microsoft Windows XP or Vista
    b. Ubuntu 7+ or Fedore Core 8+

2. Disk Space
    a. Installation – 28 MB

3. CPU – At least 1.2 GHz CPU

4. Physical Memory – At least 512 MB

5. Network Card
    a. 10/100 MBps Fast Ethernet adapter.
    b. 802.11 a/b/g Wifi adapter

## 2.2 Installation on Microsoft Windows XP/Vista

Double click on the installer file (inSyncInstall-ver-3.1-rxvz.msi) and you'll see the screen – "Druvaa inSync" as shown below –

1. Select **Next** on the Setup – Druvaa inSync window.

2. The **Next** button takes you to the License agreement.

3. After you accept the agreement, the next step is to specify the location for the Druvaa inSync Client. You can also, browse or specify alternate paths.

4. Setup will create the program shortcut in default start menu folder "Druvaa inSync".

5. **Next** takes you to the installation screen. It tells you the status of tasks performed.

6. Starting the installation, shows the status and the Finish screen shows successful installation.

7. Once finished the inSync client automatically starts and appears in the system tray.
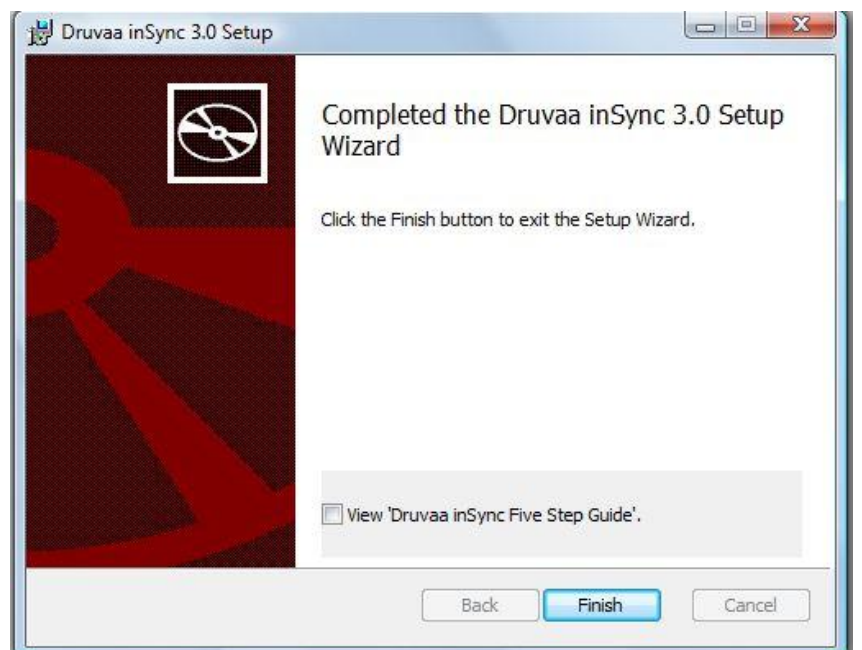
2.3 Installation on Linux

InSync client for Linux comes in RPM and DEB packages for Redhat and Debian derived systems respectively. Druvaa currently only ships packages for the Intel 32-bit (i386) architecture.

The DEB and RPM packages are generic and should work with most systems that use RPM and DEB as their base packaging system.

To install Druvaa inSync on Redhat or a derived system (Fedore Core 8+):

```
# rpm –i /path/to/druvaa-insync-client*rpm
```

To install Druvaa inSync on a Debian derived system (Ubuntu 8+):

```
# dpkg –i /path/to/druvaa-insync-client*deb
```

Once installed, the inSync client can be started manually from the applications men for the first time, or will start automatically upon login.

```
        $ sudo dpkg -i druvaa-insync-client_3.0.3-1836_i386.deb
Selecting previously deselected package druvaa-insync-client.
(Reading database ... 100146 files and directories currently installed.)
Unpacking druvaa-insync-client (from druvaa-insync-client_3.0.3-1836_i386.deb) .
..
Setting up druvaa-insync-client (3.0.3-1836) ...
```

3   Using Druvaa inSync Client

The inSync client supports following functionality –
1. Configuration
2. Restore
3. Sync Now
4. Status
5. Pause/Resume synchronization
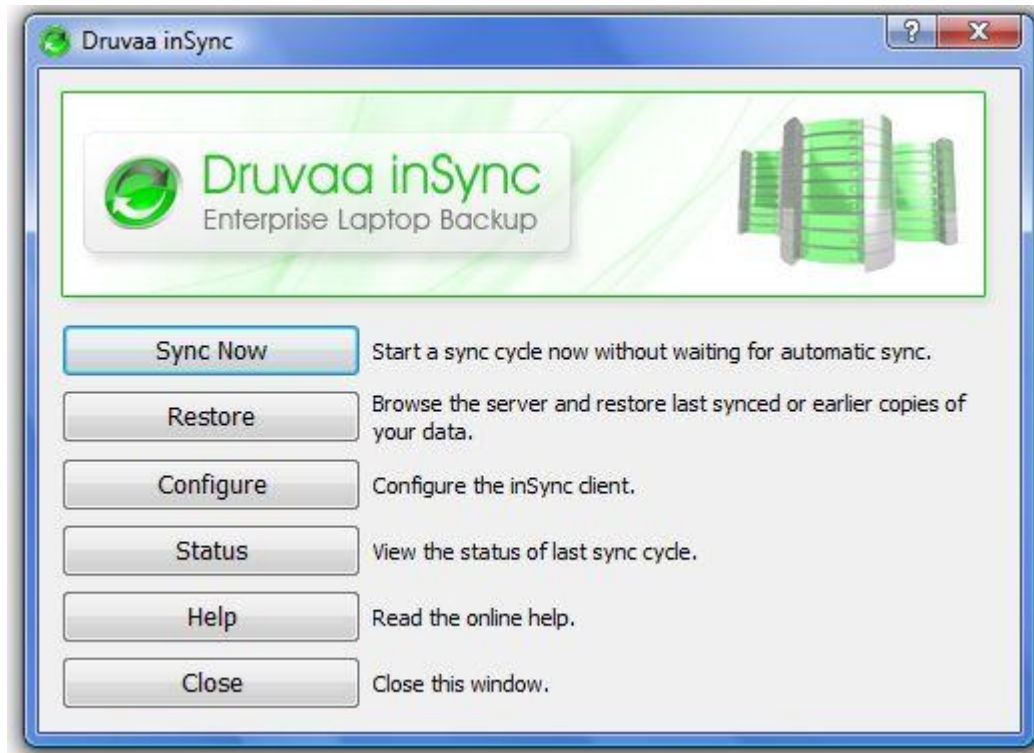
Starting the inSync client loads a small inSync icon in the system tray. Left click on the icon shows the "control panel" as shown above and offers various possible operations.

## 3.1 Configuring Druvaa inSync Client
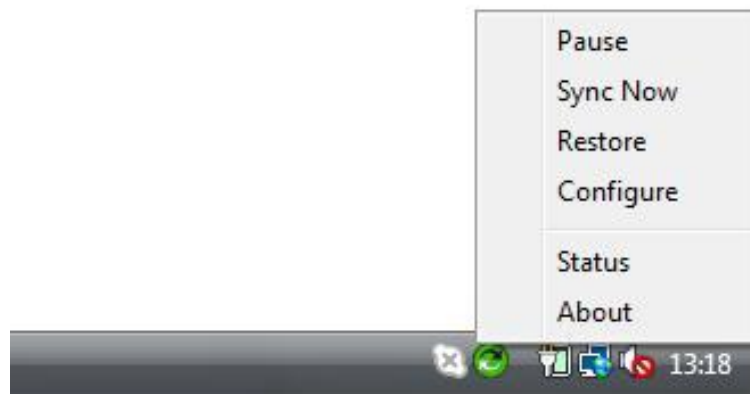
To configure right click on the system tray icon and choose the option - "*Configure*". Alternatively, left-click on the icon to bring up the client control panel, where you can click the configure button to configure inSync.

This pops up the *"Configure inSync"* screen, which lets you configure the following –

1. Backup Settings
2. Folders
3. Advanced

3.1.1 Backup Settings

To open backup settings click on the "*Settings*" tab as shown in the screenshot below –
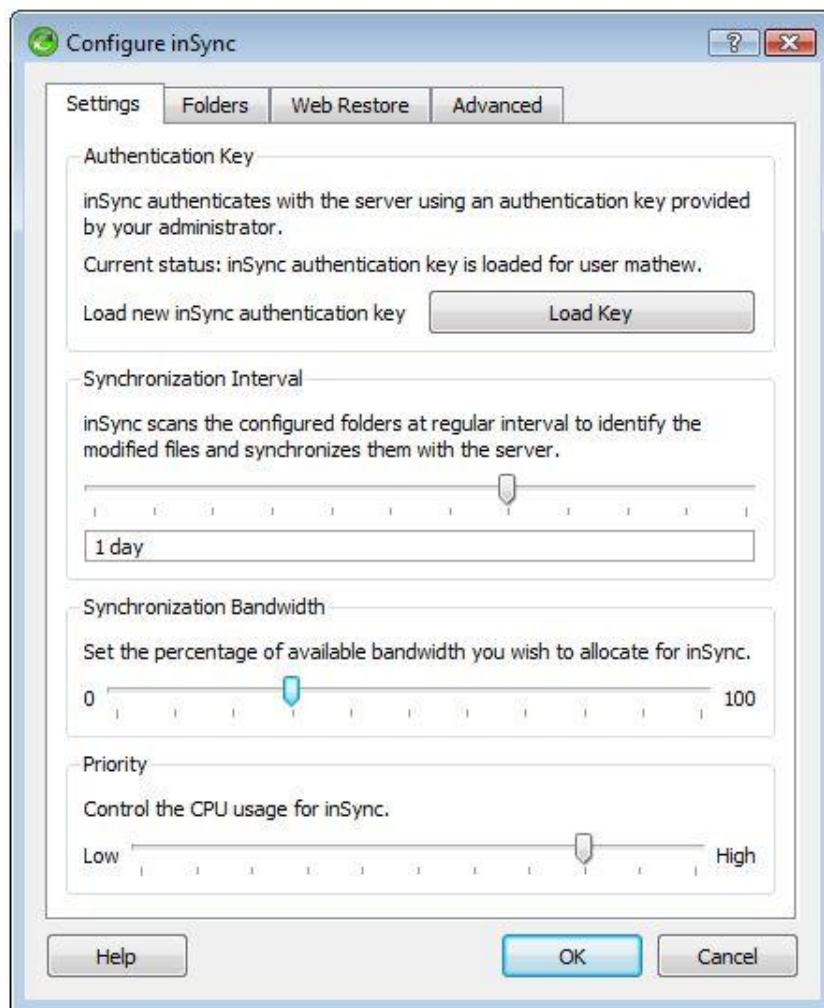
3.1.1.1 Authentication Key

The inSync client contacts the inSync server and authenticates using the Key file (.isk) provided by the Administrator. This file contains the server IP address and the authentication key.

Use the **"Load Key"** button to browse the key file (.isk file) and load it. Alternatively, double clicking on the key file will automatically try to load and validate the key.

NOTE: An authentication key can only be used once. Once used, it can never be reused by the same user or anyone else. In case you lose your configuration or your laptop and you need to restore your data, your inSync administrator can generate a new authentication key for you.

3.1.1.2 Set Synchronization Interval

The inSync client scans the configured folders at the set frequency and synchronizes any delta changes with the server. The default frequency is "8 hours" which means changes would be synced every 8 hours. This can be set to any of the preset values ranging from 20 minutes to 7 days.

NOTE: Druvaa inSync client uses **"opportunistic scheduling"** which means that if a scheduled sync hasn't taken place, it will take place the next time connectivity to server is available.

3.1.1.3　Set Network Bandwidth

The inSync client lets the user configure the percentage of available bandwidth for backups. The user can choose a value between 0 to 100%. The inSync client will automatically detect available bandwidth and provision the set percentage of that for the backup.

3.1.1.4　Set CPU priority

The inSync client lets the user provision a fraction of available computation power for backup making backups less intrusive and battery life friendly. Move the slider to the appropriate level of available CPU you wish to provision for inSync. The inSync client will try to use CPU accordingly when possible.

Bandwidth and CPU prioritization enable users to dedicate lesser resources for backup and prioritize on work. This is especially useful for WAN based off-site backups or for users who travel frequently.

3.1.2 Configure Folders

The inSync client scans the configured folders and synchronizes the changes with the server. Click on the "*Folders*" tab to open up the folder configuration.
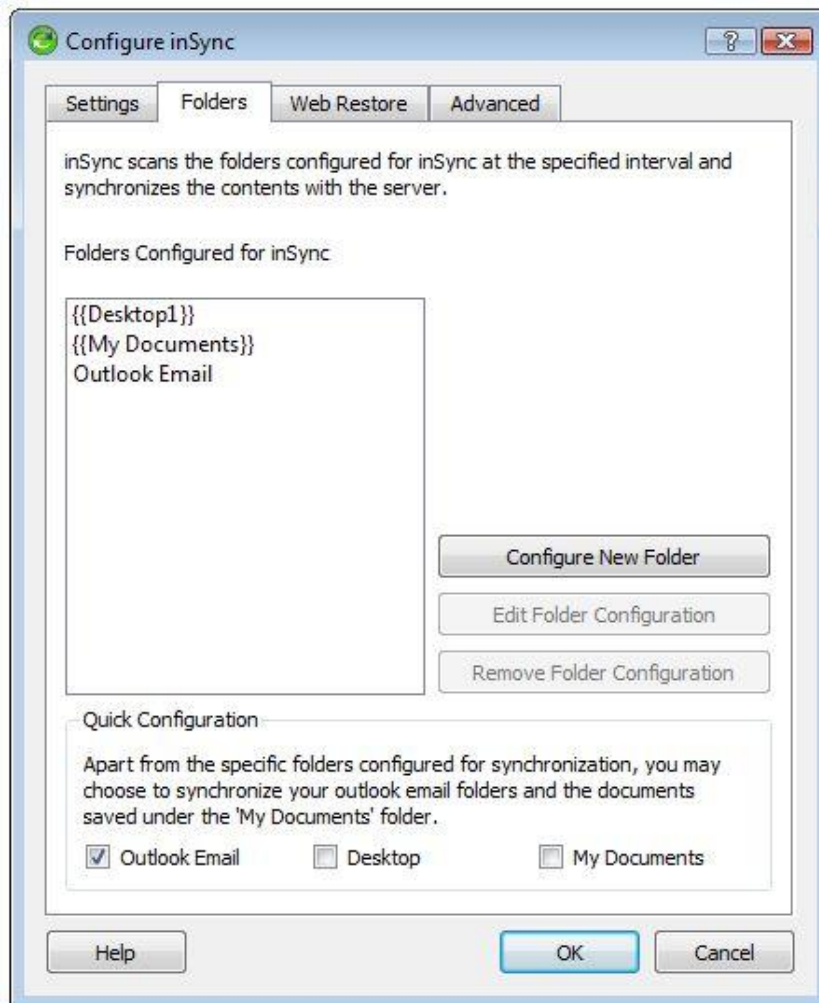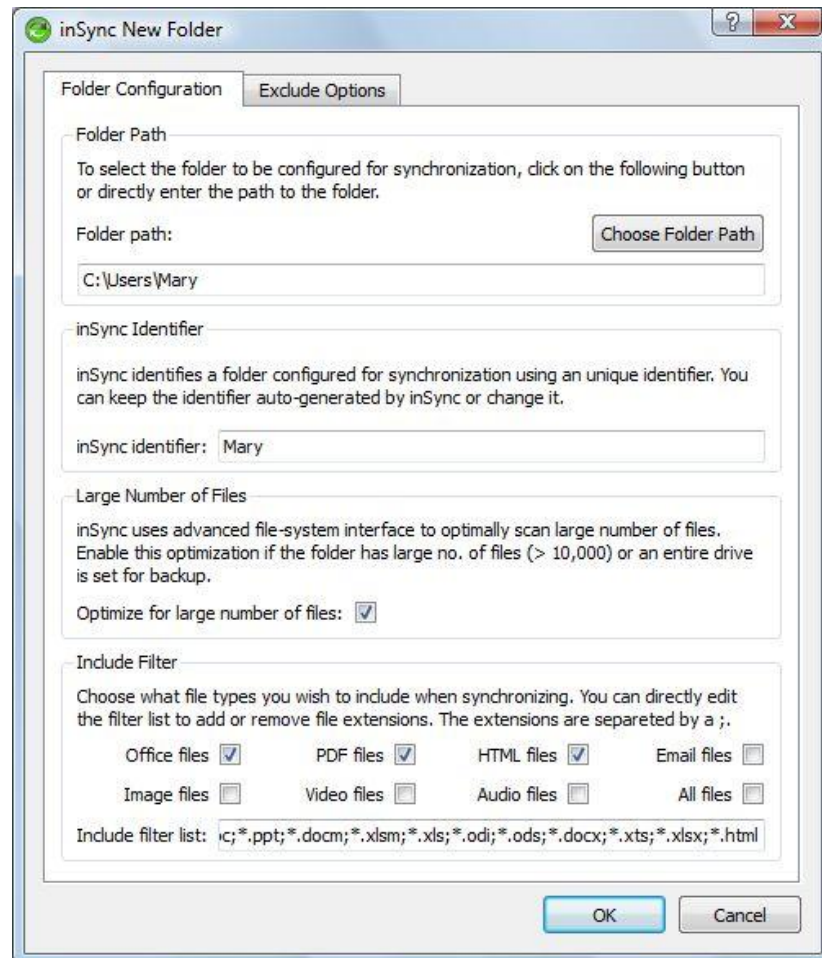

The folder configuration allows a user to:
1. Configure a new folder
2. Edit a folder configuration
3. Delete a folder

3.1.3 Configure a New folder

Clicking on "**Configure New Folder**" button pops the *New Folder for inSync* window as shown below -

3.1.3.1 Folder Path

Choose the path of the folder you want to synchronize, by clicking on the "**Choose Folder Path**" button.

3.1.3.2 InSync Identifier

The inSync client identifies the folder configured for synchronization by a unique folder identifier, which it auto-generates. You may change it if desired. The identifier is used to identify the folders and files, while restoring them (as discussed later).

3.1.3.3 Optimize of Large Number of Files

This option should only be used when the number of files in the configured folders exceeds ten thousand (10,000). For example, while choosing path – "C:\Users\Mary" in Windows Vista.
The option requests the client to use advanced file-system scanning (MFT) and file-change-log (FCL) tracking for backup and may be a bit slow for smaller folders.

Note: This option is only available for Windows clients.

3.1.3.4   Include Filter

InSync allows you to set an include filter that specifies what file types to synchronize. You can choose from common file types like, office documents, pdf, html, etc to automatically populate the filter list.

3.1.3.5   Exclude Filter

Similar to the Include Filter, you can specify a set of file types or file patterns to exclude. Please note that if admin also sets an exclude filter, the effective filter set is the combination of your filter set and the administrators.

NOTE: You can directly edit the filter list to add or remove file extensions separated by semi-colon. This filter set is more powerful than mere filename extensions. You can also specify partial global patterns like design*.pdf; which will include/exclude files that start with 'design' and end with a '.pdf' extension – depending on which filter list you add it to. Also beware that if you include a file type/pattern and exclude it as well, it will be effectively excluded.

3.1.3.6   Exclude Folders

Lets the user choose folder names which should be excluded from the backup. Any sub-folder name containing the exclude folder name is excluded.

3.1.4 Quick Configuration

For quicker configuration, apart from configuring custom folders, the inSync client offers three predefined folders which can be added for synchronization with a single click.

Selecting one of the folder checkboxes pops the "*New Folder for inSync*" window and lets the user confirm the folder path and filter.

3.1.5 Edit or Remove Folders

Once a folder is configured, you can only edit it's filter list later if needed. You can do this by selecting the configured folder and clicking the "**Edit Folder Configuration**" button which pops the "*Modify Folder Filter for inSync*" window.

Similarly, select the folder and press "**Remove Folder Configuration**" for deleting the folder configuration.

3.1.6 Web Restore

The web restore feature allows the user to use the browser to restore the files when not on his PC. This feature can only be used when the admin has enabled "web-restore" in the profile.

This feature is disabled for every user by default and must be activated manually from "Web Restore" tab in the client configuration. To use this feature, open the "Web Restore" tab and check - "Enable restore from a browser" and set the web-restore password as shown in the screenshot below –
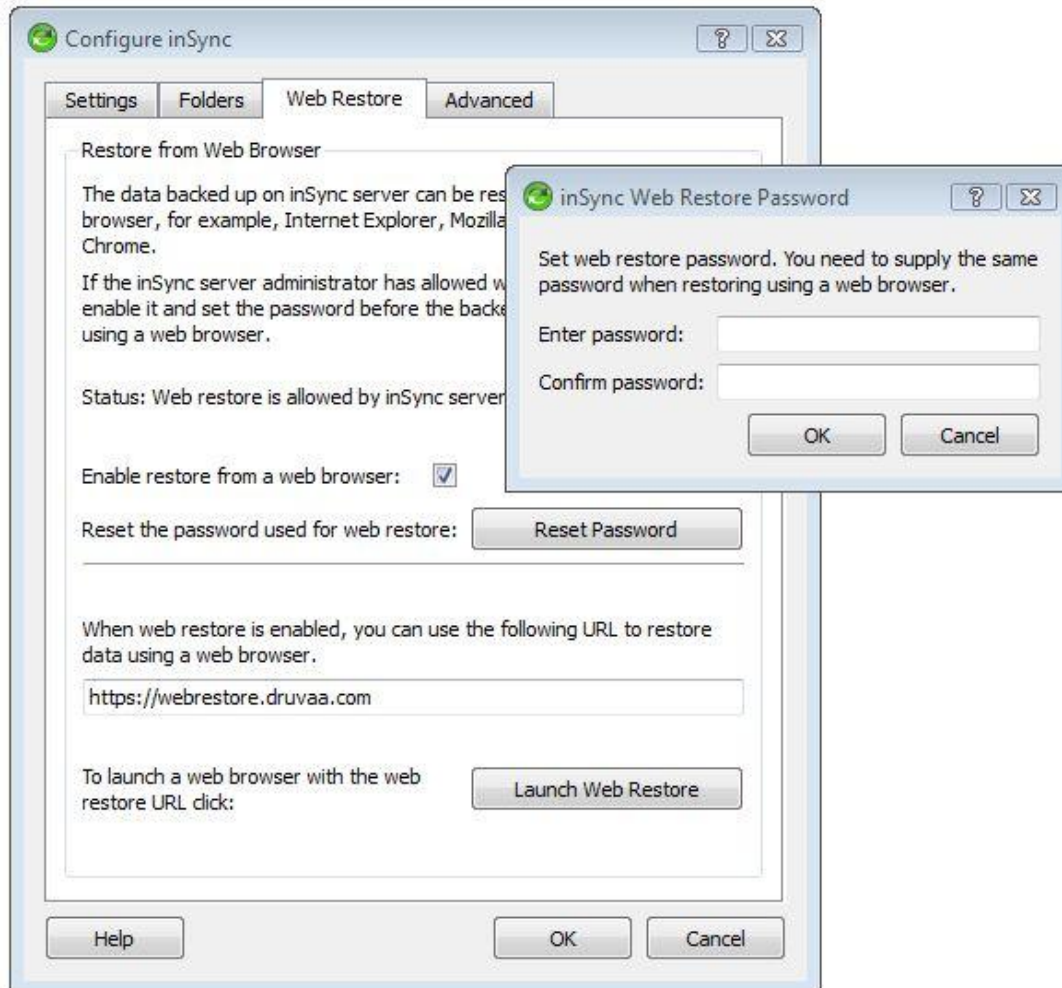
To use this feature and access the backed up files, open the browser from any PC and type the URL listed in the web-restore GUI (e.g. https://webrestore.druvaa.com as shown in the example). Alternatively press the "Launch Web Restore" button to open the browser window.

As shown below, the restore URL when accessed shows a login screen first. Please use the backup username and web-restore password to access files.
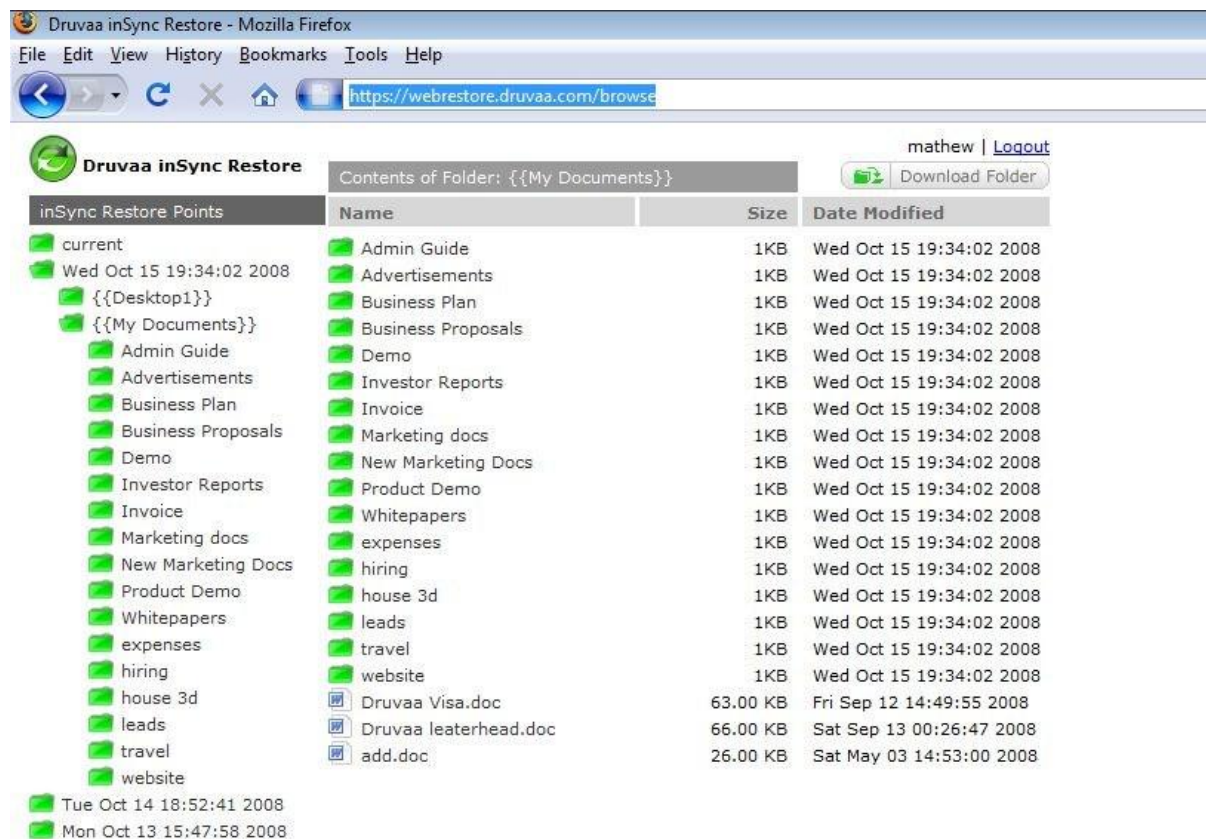
On successful login, the restore UI lists all the restore points (shown below). The user can either click on the file to directly download it or choose the folder and press the "download folder" button to download the entire folder as a Zip archive.

3.1.7 Advanced Configuration

The "*Advanced Option*" tab contains the servers IP address and is automatically populated during the "Load Key" operation. The following screenshot shows the same –
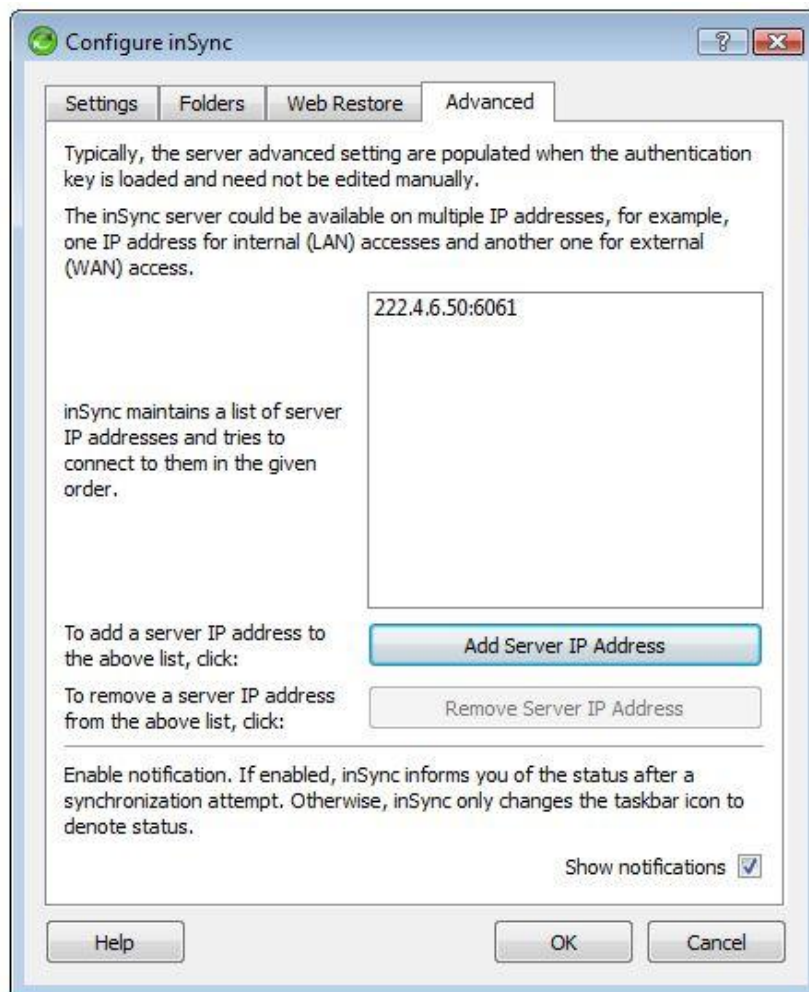
However there may be times when the Druvaa inSync Server is changed or needs a new IP address, and the admin may request the client to change the IP. In that case the user can select an IP address and remove it and then add a new IP address. You can have more than one IP address in the list. The inSync client will cycle through the list and attempt to connect to each server in turn. This allows you to configure the local (LAN) server IP as well as the external (WAN) IP and port number once and then freely moves between both networks without having to re-configure the server IP address each time you switch networks.

3.1.7.1   Notifications

The "Show notification" option enables notifications on the client. If enabled, the client pops up a notification message in case of errors or warnings as shown below –
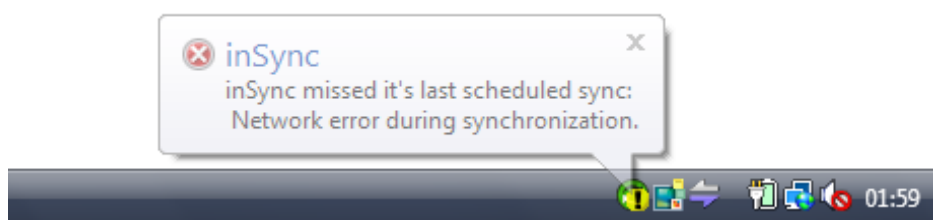
3.2 Sync Now Option

The inSync client facilitates on demand backup (**"Sync Now"**), which can be launched from the system tray or the main menu. The "inSync Synchronizing" window actively starts syncing the configured folders' contents and displays the sync progress.
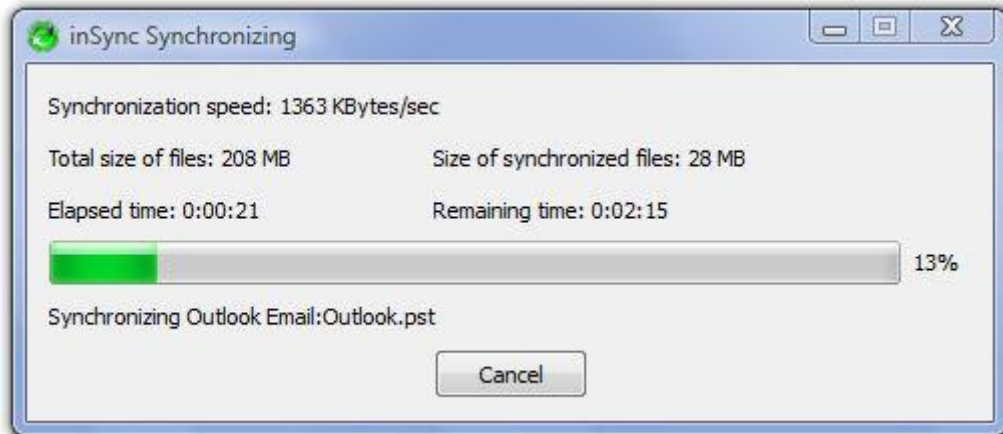

The user can actively track progress and after the backup is complete it automatically pops-up the status window.
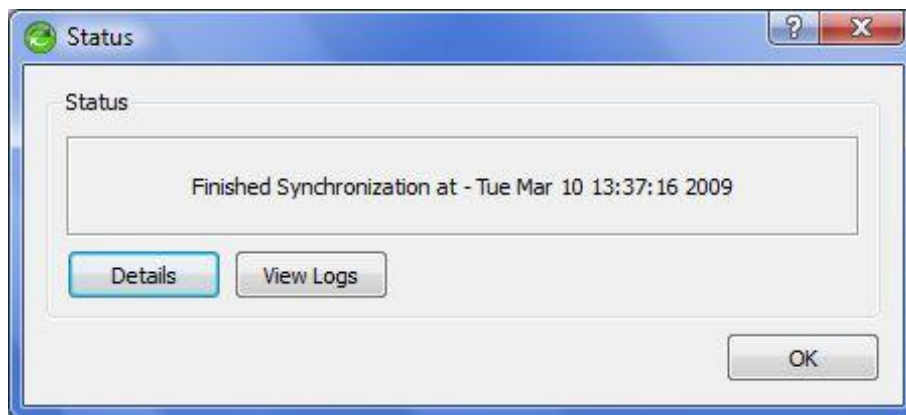
3.3 Restoring Data

The inSync client facilitates easy restore over the network. To begin restore, the user can right click on the system tray and select restore or choose to restore from the main menu.
If the user is configured to use a "Single Instance Store", the data is backed up and maintained for as many days as specified by the admin. All the backups within this timeframe are shown as a timeline when the user starts the restore.
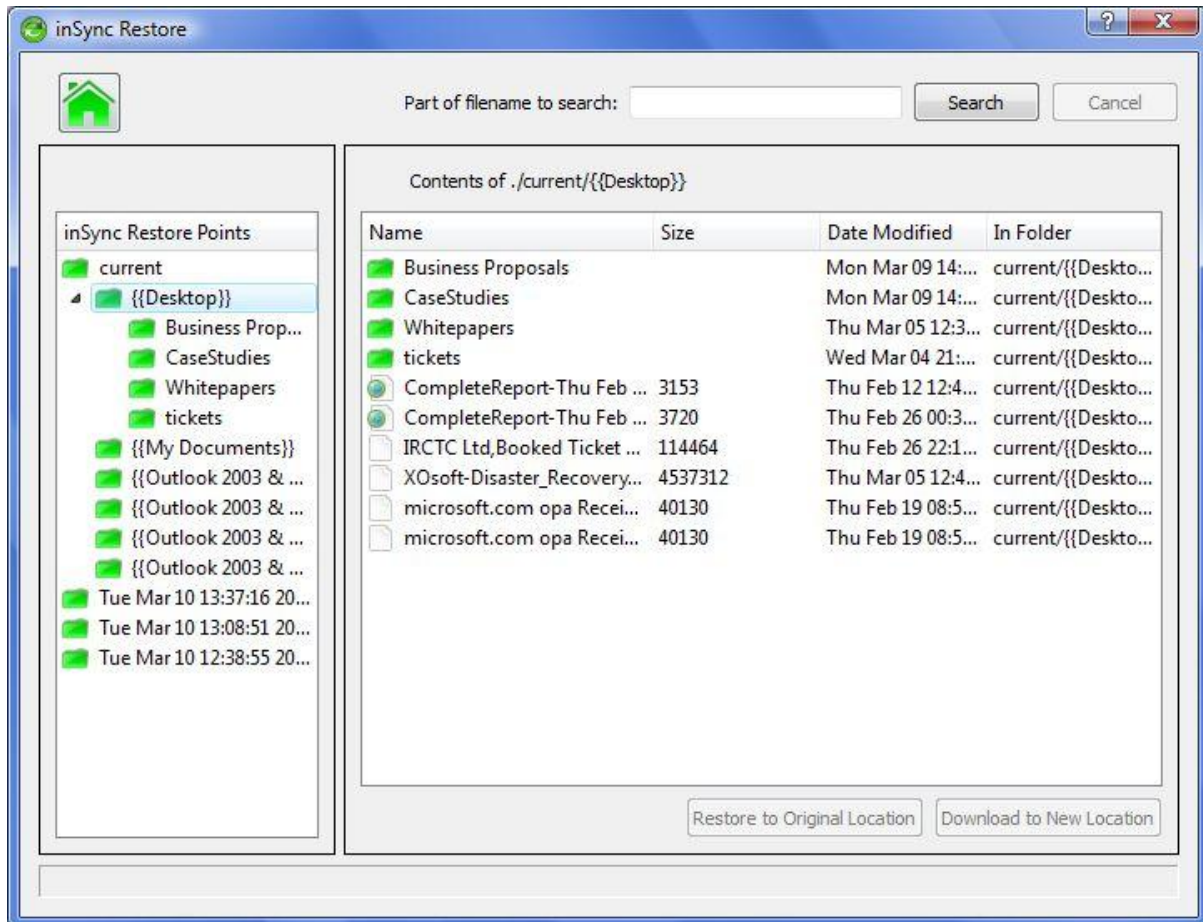
If the user is configured for a "Plain File Store" only two versions of each file are maintained. The restoration window at the top level lists the versions as **"current"** and **"old"**. Each time a file is deleted or changed the last working version is copied from "current" to "old".
 **Note:** The "Plain File Store" has some drawbacks regarding file sizes as well. The administrator can specify a maximum file size that limits the availability of 2 versions of this file on the server. For example, if the file size limit is set to 100MB, then files larger than this won't show up in the "old" folder unless it has been deleted.

To restore the files, simply right click on any file or folder and choose to restore to original location or to a new location in the PC.
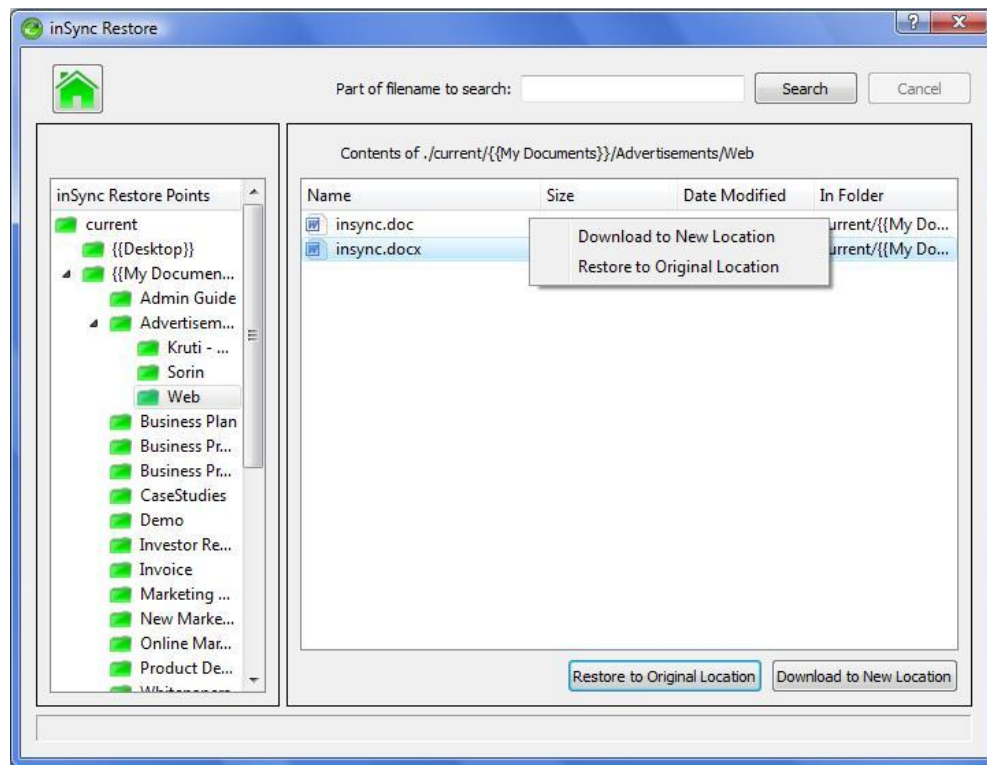
## 3.3.1 Searching for files in Restore

For faster recovery of backed up files, the user can search for file name and extension in the search box. Hitting the search button immediately lists all matching files from all the restore points. Please right click on the file name to restore.
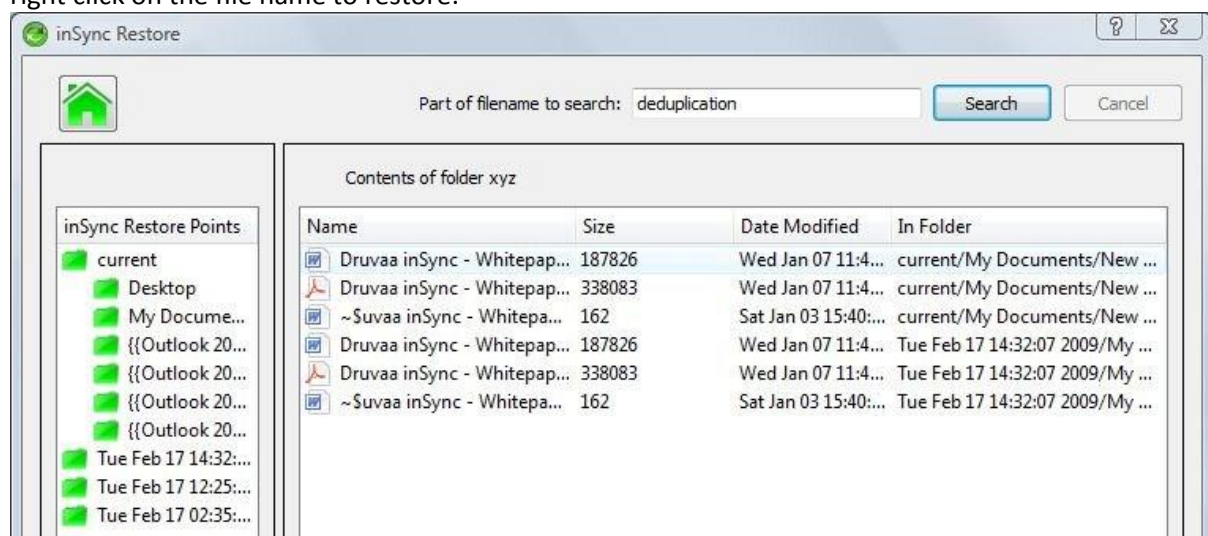
3.4 Status

The inSync client shows the detailed status of last backup and can be launched from the system tray or from the main menu. The "inSync status" window shows details from the last backup like –

1. Storage quota usage

2. Last time the backup started and ended

3. Total files backed up and missed

4. Bytes transferred during the backup
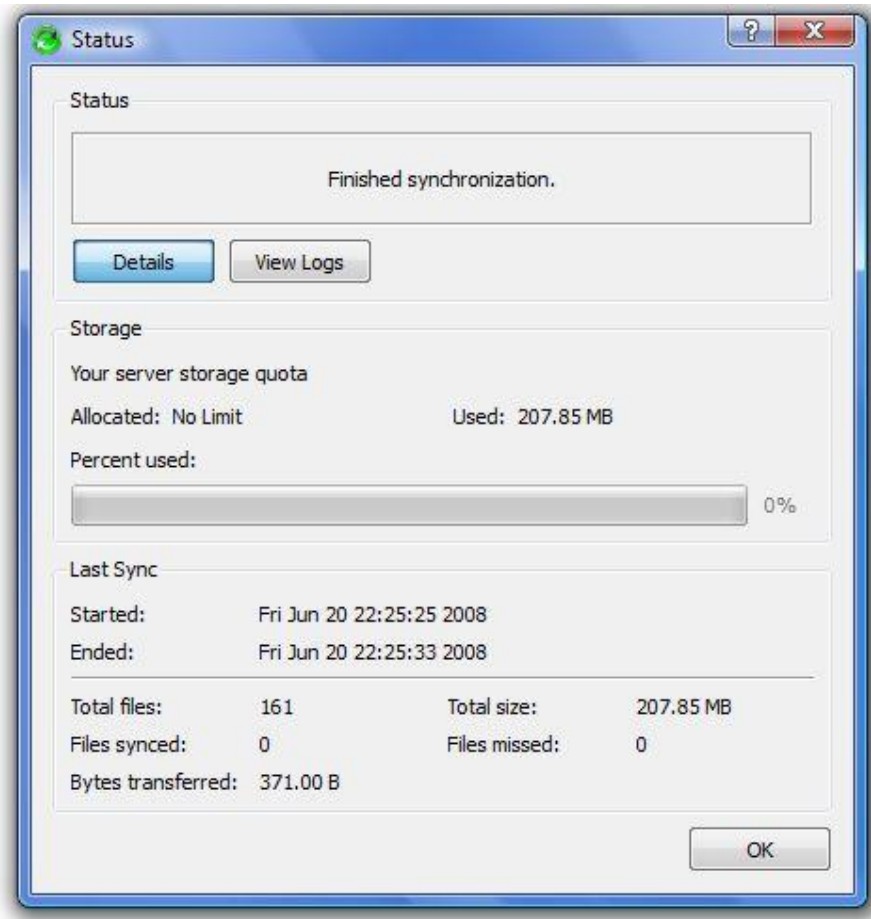
3.5 Other inSync client Options

The other options available by right clicking the icon on system tray are:
1. **About** – Displays the inSync version information.

Pause and Resume – This allows you to temporarily pause or enable synchronization at any time. This can be particularly useful when you are on a really slow link and you absolutely don't want any sync to take place temporarily. The option must be allowed by the administrator.
1. Start menu.

3.6 Error Handling

If notifications are enabled on the client (refer to "Advanced Settings" in the client configuration), in case there are problems e.g. network not reachable or the client is unable to scan specific folders, the inSync client icon in system tray shows an error –
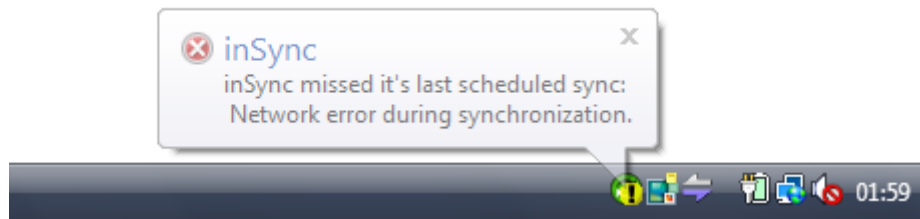
The user should, in that case, check the logs, and if needed contact the administrator. The logs can be examined by clicking the "*View Logs*" button on the "*Status*" window, as shown above –
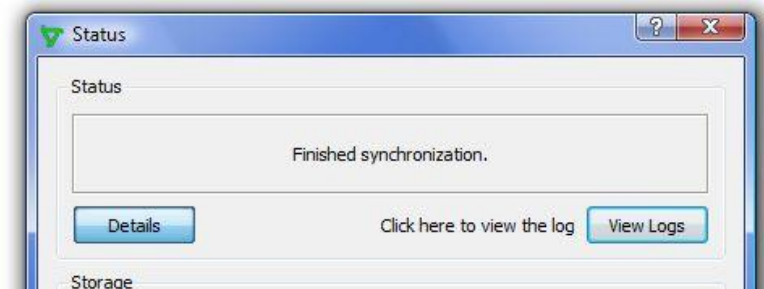
The snapshot of logs when network is not reachable is shown below –

```
[2008-02-11 13:11:15,242] [INFO] Synchronizing C:/Users/Jaspreet/Documents/mysql whitepapers/mysql-cluster-technica
[2008-02-11 13:11:15,242] [INFO] Synchronizing C:/Users/Jaspreet/Documents/mysql whitepapers/mysql-cluster-whitepap
[2008-02-11 13:11:15,243] [INFO] Synchronizing C:/Users/Jaspreet/Documents/mysql whitepapers/mysql_wp_benchmarks_50
[2008-02-11 13:11:15,243] [INFO] Synchronizing C:/Users/Jaspreet/Documents/mysql whitepapers/mysql_wp_scaleout.pdf
[2008-02-11 13:11:15,243] [INFO] Synchronizing C:/Users/Jaspreet/Documents/mysql whitepapers/scale-out.pdf
[2008-02-11 13:36:34,746] [ERROR] Failed to synchronize. Error: (0x100000011L, """Server is not reachable""")
[2008-02-11 13:37:35,035] [ERROR] Failed to synchronize. Error: (0x100000011L, """Server is not reachable""")
[2008-02-11 13:38:35,283] [ERROR] Failed to synchronize. Error: (0x100000011L, """Server is not reachable""")
[2008-02-11 13:39:35,513] [ERROR] Failed to synchronize. Error: (0x100000011L, """Server is not reachable""")
[2008-02-11 13:40:35,736] [ERROR] Failed to synchronize. Error: (0x100000011L, """Server is not reachable""")
```

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4 Uninstalling the Druvaa inSync Client

Microsoft Windows
To uninstall the Druvaa inSync client go to
      Windows Start → Programs → Druvaa InSync → Uninstall Druvaa InSync
Linux
To uninstall the Druvaa inSync client open a terminal as root and type -
      # rpm -e druvaa-insync-client (For Redhat based distributions)
      # dpkg -r druvaa-insync-client (For Debian based distributions)

NOTE: Please note that uninstalling the client doesn't remove any configuration or working data of the client.

5 Troubleshooting

1. Druvaa inSync client not working

    a. Check if configured server IP address is reachable from the client machine (find the server IP address and port number from the Advanced tab on the configuration window)

    b. Check for firewall settings for accessibility of the server port. *Refer to section 3.1.2*

    c. Check if the configured folders are present on the client.

2. Quota full

    a. Admin can increase the quota size.

    b. Admin can remove older restore points if the quota is on cumulative usage of all restore points.

    c. The user can remove/move some files from folders marked for backup.

    d. Alternatively, the user may exclude some files from the sync by updating the share's exclude filter.

3. Lost inSync Key or configuring a new PC

    a. Contact admin and ask for new key to be generated and sent.

4. Installation problems

    a. Check licenses.

    b. Uninstall the inSync client.

    c. Delete the data folder and installation folders.

    d. Reinstall the inSync client.

6 How to Get Technical Support?

All registered users are entitled to technical support, should the need arise. Please contact us by email at support@druvaa.com.

7 Feedback

If you have any comments or concerns about this product please direct them to support@druvaa.com.

Your feedback is important to us. It helps us to make this a better product for you. Many of its features and significant portions of its interface have been heavily influenced by comments from users. So if you have a grand idea for a new feature, or a better way of doing something, please drop us a note. We look forward to hearing from you.