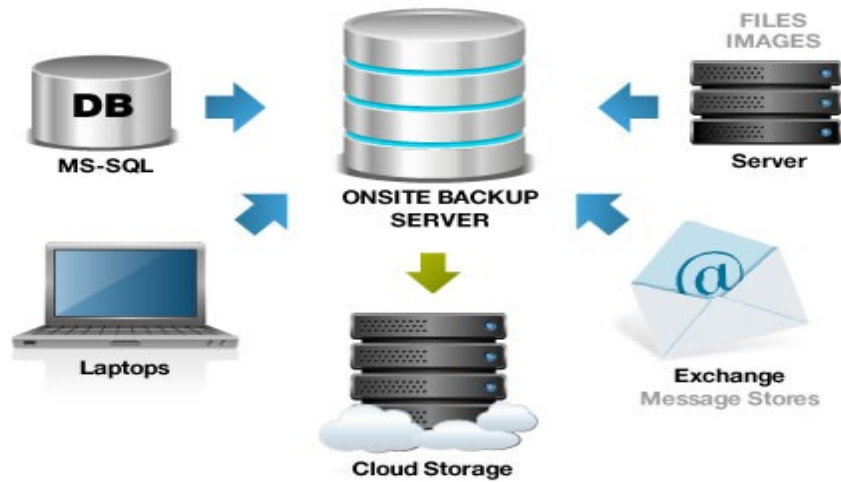


HiComp

IBM/Softlayer Object Storage for Offsite Backup



How to use IBM/Softlayer Object Storage for Offsite Backup

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IBM/Softlayer Object Storage is a redundant and highly scalable cloud storage service that allows users to easily store, search, and retrieve data across the Internet or across SoftLayer's global private network. Softlayer Object Storage is based on the OpenStack Swift platform. Object Storage uses multiple servers and multiple drives, meaning it replicates the data you provide across the cluster of multiple physical servers. In non-GeekSpeak that means your data is stored across lots of servers and disk drives for redundancy; in case of a hardware failure your data is safe and secure.

At the simplest level one can sign up for a Softlayer account and use the web browser interface to upload files into the storage folder assigned. That's great if you only have a few files you want to keep safe, but for most people it's too inefficient to manually upload files when they make changes. So, for our example here we'll be using CloudberryLab's Cloud Backup software to schedule daily backups of your files up to the Softlayer Object Storage Cloud.

First you'll need to sign up for a Softlayer account. To do this, contact HiComp and we can get you set up with all of the Softlayer resources you want. If you want to do it yourself, simply go to the Softlayer.com website, click on Products and Services-->Object Storage. On the Object Storage page, click on the Order Now button. Get ready with your credit card as you'll need that for the signup process if you go directly to Softlayer to get an account.

Order Object Storage

The screenshot shows the SoftLayer Object Storage pricing and ordering interface. On the left, there is a pricing table with the following items:

Object Storage - Pay as you go	\$0.04/GB
Object Storage Bandwidth - Pay as you go	\$0.10/GB
Object Storage CDN Bandwidth - Pay as you go	\$0.12/GB

Below the table is a green "ADD TO ORDER" button. To the right of the pricing table is a "Summary" section showing a total price of "\$0.00 /mo." with a note "+ \$0.00 in one-time fees" and another green "ADD TO ORDER" button. Below the summary is a "Currency" dropdown menu set to "USD - United States dollar" and an "Update Currency" button. At the bottom right is a "Configuration" section showing "Cloud Storage" with "Object Storage - Pay as you go" at "\$0.00 /mo."

When you click on "add to order" the screen doesn't change, but the selection has been added to your Cart. Go to the upper right hand of your browser screen and click on CHECKOUT; that will take you to the cart where you'll then enter your credit card information. Again, you have the option to have HiComp set up your account or if you have any problems, contact a HiComp representative and they will be glad to walk you through the process. After you have entered your billing information, you'll need to check the box next to the statement saying you've read and agree to the Master Service Agreement, then click on Submit Order.

Once you have the signup form completed Softlayer will email you a confirmation along with a username and temporary password. Follow the email instructions to log in and reset your temporary password to something you can remember. Again, if HiComp does the Softlayer enrollment for you then we'll take care of the initial setup.

Welcome to SoftLayer Technologies, Inc.!

We invite you to begin exploring our customer web portal where you have access to a myriad of tools to manage, maintain, scale, and support your computing environment.

<https://control.softlayer.com>

Your temporary portal credentials are:

User ID: XX010101

Password: SLPassword

You will be required to change your password after logging in.

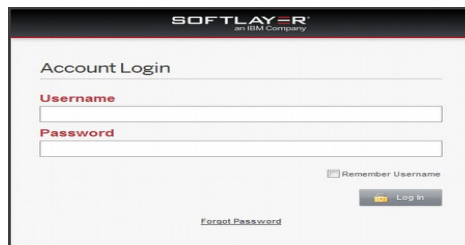
If you need further sales assistance, please open a ticket via the SoftLayer Technologies, Inc. customer portal or contact us directly at [1-866-398-7638](tel:1-866-398-7638) or sales@softlayer.com.

Thank you,

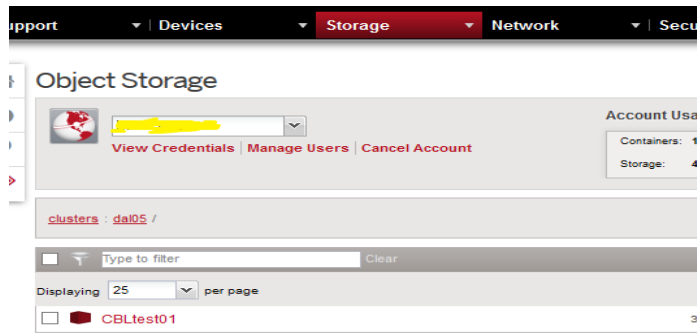
SoftLayer Technologies, Inc.

When you have the Softlayer signup completed and have changed your password, you can then begin using your Object Storage. Remember, your bill is ZERO dollars per month until you actually begin storing files in the object containers, and then the monthly billing is based on the exact amount of storage space you consume.

First, let's create a new storage container. Go to the SoftLayer website and click on the Portal link in the upper right hand corner of the site, you will then be prompted for your Username and Password.



Once you've logged in, go to Storage-->Object Storage. In the menu line under clusters:da105 over to the right, select Add Container and type in a container name. In this example we've named our container CBLtest01. Leave this browser tab open since we'll need the Credentials for the backup software to authenticate.

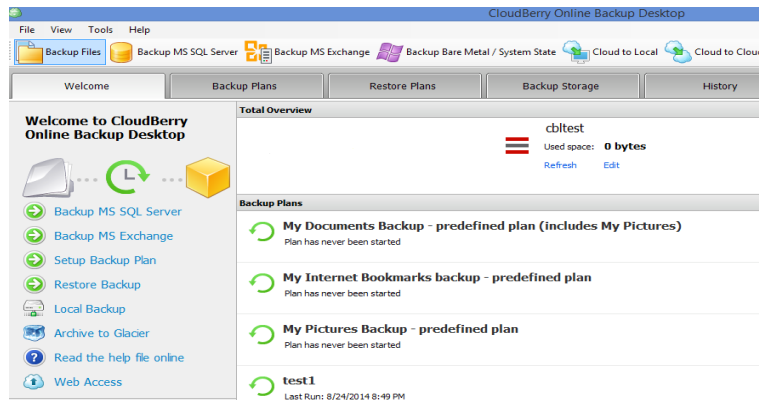


The next step is going to be acquiring the CloudberryLab software. Go to Cloudberrylab.com and click on Products and select a version such as Server Backup. Depending on your needs, there are several versions of this software: Desktop, Server, MS-SQL, MS-Exchange and the Enterprise version which includes file-level, SQL, Exchange and Bare-Metal backup options. For our purposes here we'll just assume you're backing up your office file server, thus you'll need the Server Edition. Don't worry about the fact that the page says "for Amazon S3", the Cloudberry software works with S3 and OpenStack-compatible storage. Softlayer Object Storage is based on OpenStack. For testing purposes you can simply download the trial version of the software which gives you a 14-day license key to use the software before you decide to purchase.

CloudBerry Backup for Windows Server automates Windows Server Backup to Amazon S3

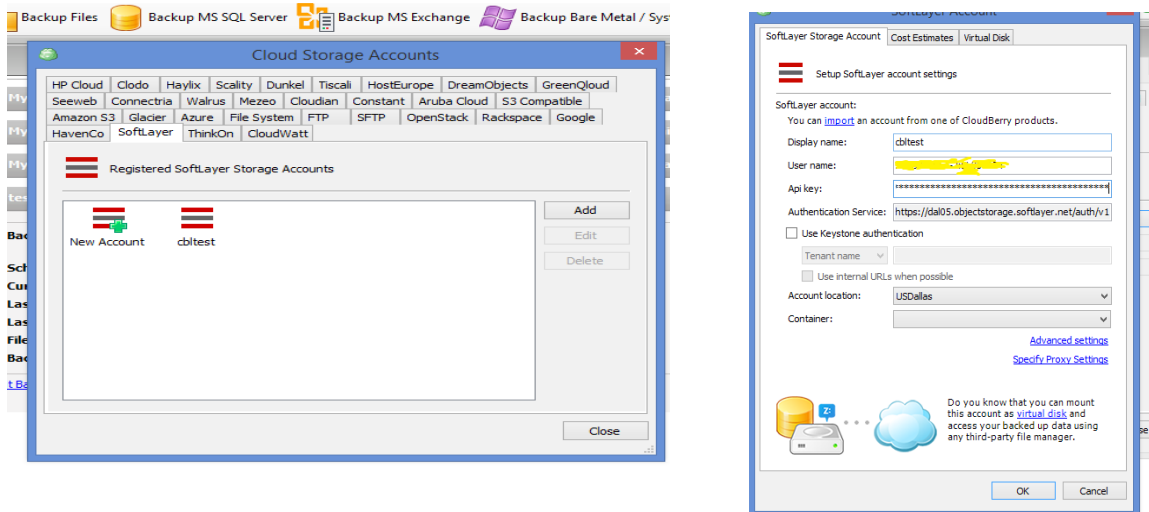
Desktop	Server	MS SQL	MS Exchange	Enterprise
Cloud backup for personal computer	Cloud backup for Windows Server	Cloud backup for MS SQL Server	Cloud backup for MS Exchange Server	Cloud backup for enterprise.
\$29.99	\$79.99	\$149.99	\$229.99	\$299.99
Download Free Trial	Download Free Trial	Download Free Trial	Download Free Trial	Download Free Trial
Buy Now	Buy Now	Buy Now	Buy Now	Buy Now
✓ License per workstation	✓ License per server ✓ Windows XP or higher	✓ License per server ✓ Windows XP or higher	✓ License per server ✓ Windows XP or higher	✓ License per server ✓ Windows XP or higher

Once you've downloaded and installed the Free Trial license, launch the Cloudberry Backup application, when prompted for a license key click on Trial on the bottom left of the license prompt and you'll see the main Cloudberry screen:

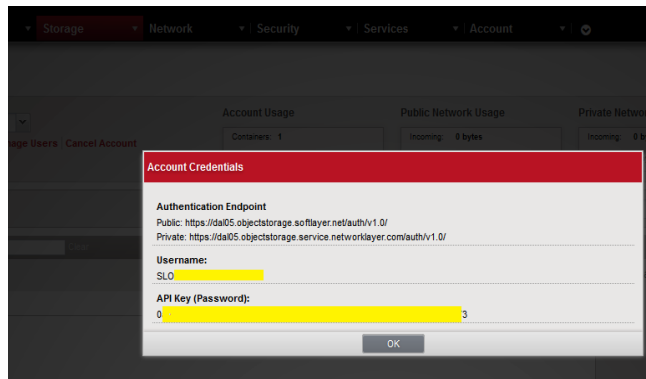


Next, we'll need to define a backup target which in this example will be IBM/Softlayer's Object Storage.

In the Cloudberry menu, select FILE-->OpenStack Compatible-->Softlayer. This will bring up a setup application for the target storage. Double click the New Account icon in the Softlayer tab on the target storage application screen. You'll see the following setup screen.



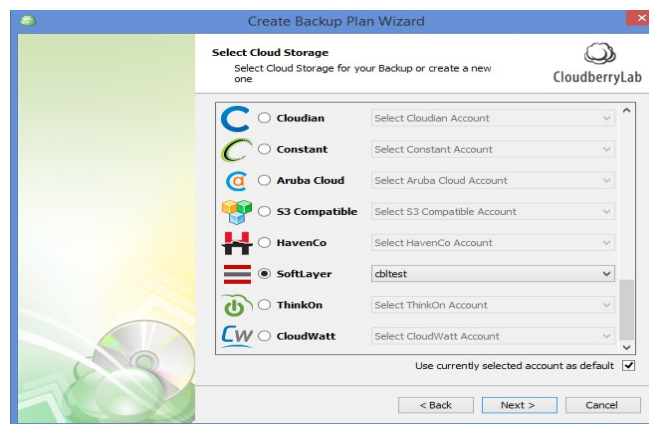
Type in a Display Name (our example CBLtest). Go back to the IBM/Softlayer tab in your browser and click on View Credentials. You'll see the following screen:



Highlight and copy the Username information from this screen over to the Cloudberry Softlayer setup screen, then do the same with the API Key. Once back in the Cloudberry storage setup, click on the dropdown box for Container, located under the Location box which should say USDallas. This will initiate the login process to validate your credentials and then you should see the container name that you created earlier over in the Softlayer setup. In our case we see CBLtest01.

Once this is successful, you're now ready to use the Cloudberry Backup software to back your local data up to the Softlayer Object Storage.

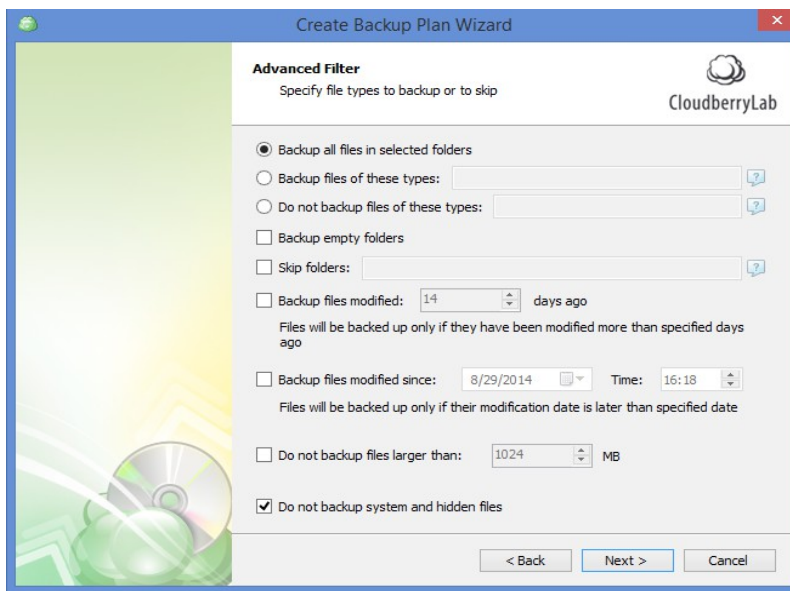
Click OK to save the Softlayer setup information and return to the Cloudberry main application screen. Click on the icon labeled BACKUP FILES which launches the Create Backup Plan Wizard. Click NEXT. The Softlayer storage option should be at the top of the list, if not scroll down and click on the radio button to the left of the Softlayer option. Your Softlayer storage container name should already show in the box beside the Softlayer icon, if not simply click on the drop down box and select your Softlayer container name defined in the previous setup steps.



Click NEXT> and you'll be asked to name your backup plan. The name field defaults to "Backup plan on..." and the present date and time on your computer. You can change this to something that makes sense, in this case we've used "CBL Test Backup". Make sure the box is checked beside "Save Backup Plan Configuration to the Backup Storage" and click next. There are (3) backup modes available, for this example we are going to select the radio button beside "Simple". Do not check the "Force Using VSS..." box. Click NEXT>.

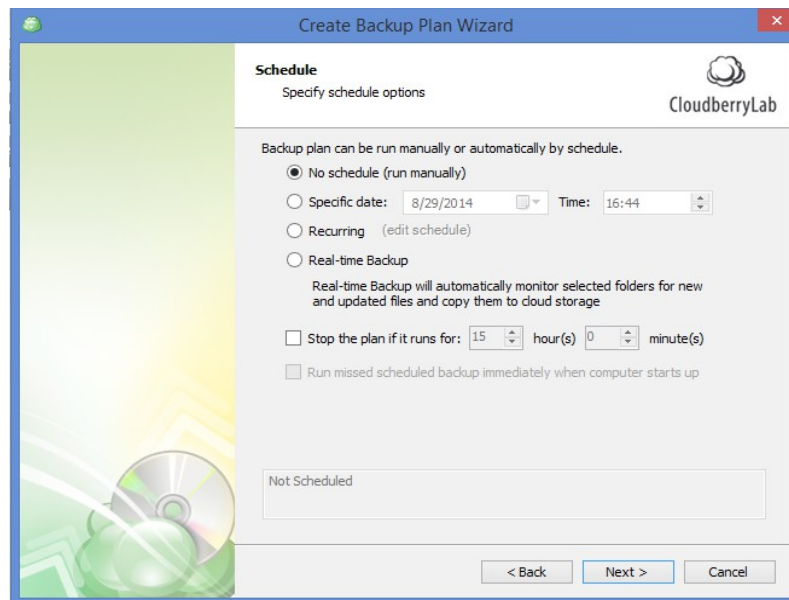
On the next screen you'll be able to navigate your local hard drives and select which files and folders you want to back up. Don't worry, you can go back and edit the plan later if you wish to make changes. Depending on your available internet bandwidth you may want to try backing up a small folder or group of folders at a time until you can get everything backed up. Cloudberry uses an incremental-forever backup scheme, so once a file is backed up it is not backed up again unless it changes. You are also able to choose to retain versions of files, so if a file changes often and you want to be able to go back to a previous version for restore, we'll set that option in a couple of clicks. For now, simply select a file or folder to use for your test backup and click NEXT>.

The Advanced Filter screen lets you limit what type of files you want to back up as well as limit files by size and date. For this example take the defaults which should look like the image below.



Click NEXT> to go to the Compression and Encryption options screen. In simple mode only Compression is available. In this example, select *Do Not Compress Files in this Backup Plan and then click NEXT>. The Purge Options screen has limited functionality in Simple Mode thus you can simply leave the Purge Files that have been deleted locally box UNCHECKED.

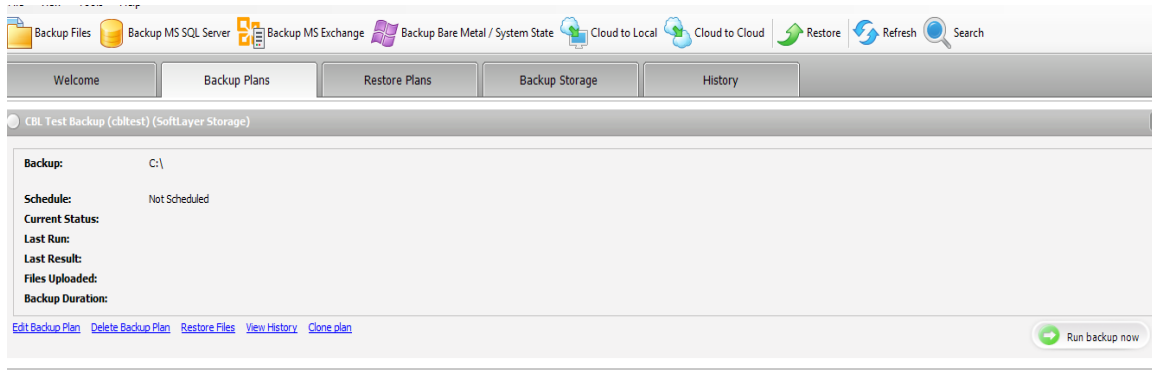
Click NEXT> to proceed to the Schedule Screen.



Here, you can elect to run manual backups, set up a recurring schedule (daily, weekly, etc) or even do Real-time Backup so that whenever you edit and save a file it is backed up to the cloud. If you set a recurring schedule, the time is in 24-hour mode (i.e. 13:00 = 1:00pm). Another option in the recurring screen is periodic intra-day backups, so you could for example set it to back up changed files once an hour from 8am until 5pm every day. Don't do Real-time Backup on large files or database files that change constantly. For this example simply select *No Schedule (run manually) and click NEXT>.

On the Notification screen you can elect to have an email sent to you when the backups are complete. The options are to be emailed only when backups fail, or to be notified if either successful or failed. If you don't have your own email server for SMTP relay, you can use a service like SMTP2GO to set up email notifications. It's free for up to 20 emails per day as of this publication date. For our example here, just UNCHECK the *I want to receive notification... box and then click NEXT>.

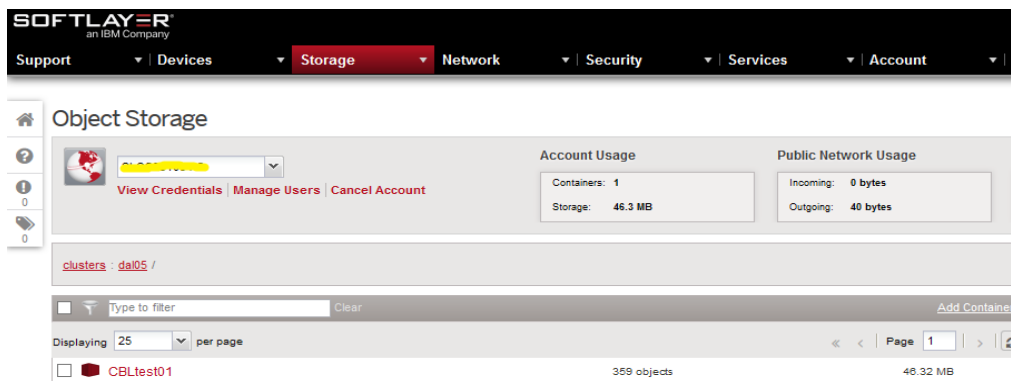
The last screen shows a summary all of your previous selections for you to review before you proceed. You can go back and edit any settings you may have incorrectly selected and return to the Summary screen by clicking NEXT thru each of the prior setup screens. Click NEXT> and the backup plan will be created. If there are errors you'll be notified of them and returned to the selections process, otherwise it will say Backup Plan is Successfully Created. Click FINISH and you will be returned to the Backup Plans tab. Click on the down arrows beside the Run option on the right hand side of the line showing your newly created backup plan. This will open the plan detail screen and you'll be given the option to Run Backup Now at the bottom right of the plan box.



Once you click on the Run Backup Now button, the backup will begin. The software will then search the hard disk for files, creating a file index, and begin backups. A status bar will appear that shows the progress, how many files have been backed up and estimated time.

After the backup completes you can click the View History option to see the backup log. If you've backed up thousands of files, creating the View History report will take a few minutes so don't panic if it doesn't immediately show files.

Once your backup is complete, you can go back to the Softlayer portal, log in, go to Object Storage, click on the Container you created earlier in the exercise that was used as the repository for your backup files and browse the files structure of the backups. Since we did not choose to compress or encrypt the files, you are able to download any files in the container and open the files without having to use the Cloudberry software to do a restore.



*Note: The screenshots are from Cloudberry Backup v 3.9.0.41 and from the Softlayer portal as of the date of the publication of this document (Aug 2014).