Set Up an S3 Service and Local Connection on FreeNAS® or TrueNAS®

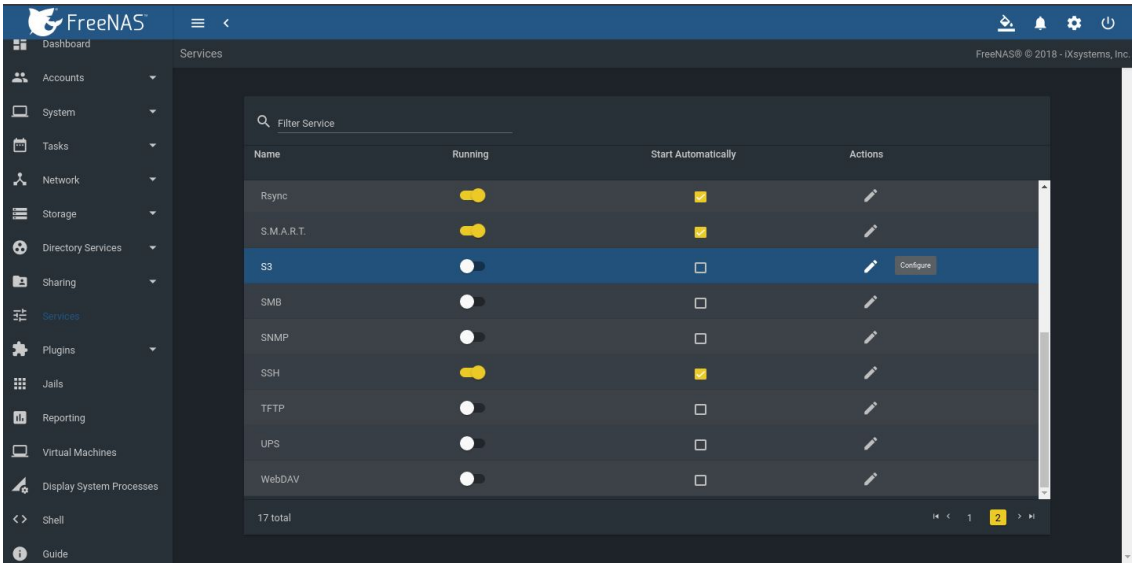
This tutorial describes how to start a local S3 service on FreeNAS and connect to it from a networked client system with the Minio Browser, s3cmd, and S3 Browser. The images show the latest FreeNAS 11.2 web interface and feature set. S3 support is also available on TrueNAS 11.1-U5 and later versions.

Background

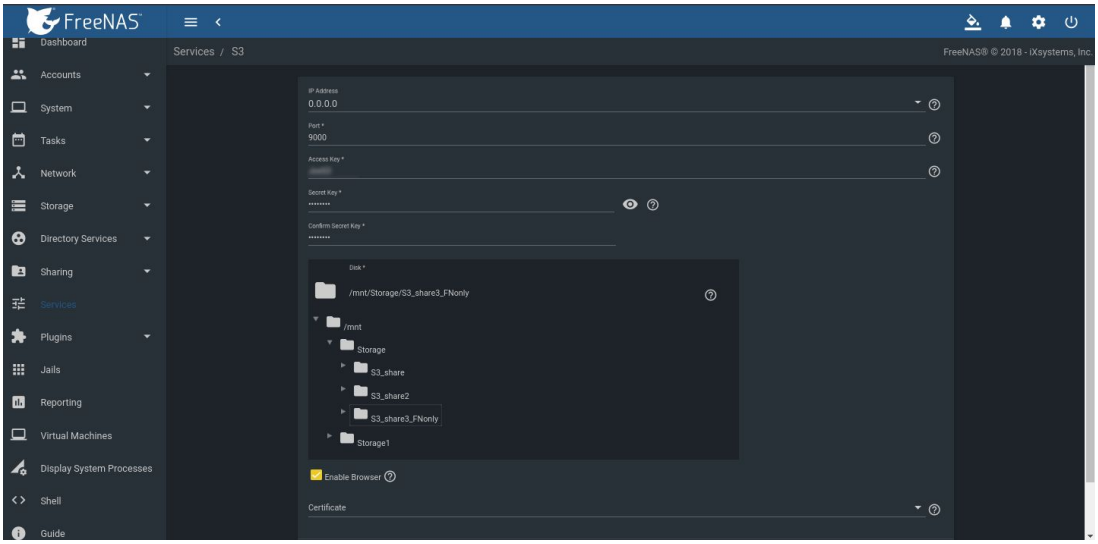
S3 is an object storage protocol used by many major cloud providers including Amazon Web Services™. On TrueNAS and FreeNAS, the service is another way to store files, and can be viewed with a web browser. Because S3 is the de facto standard for cloud-based storage, setting up an S3 service allows organizations or online application developers to use TrueNAS to replace or archive expensive cloud storage.

Setting up the S3 service

Go to **Services -> S3** and click on the pencil icon to edit.

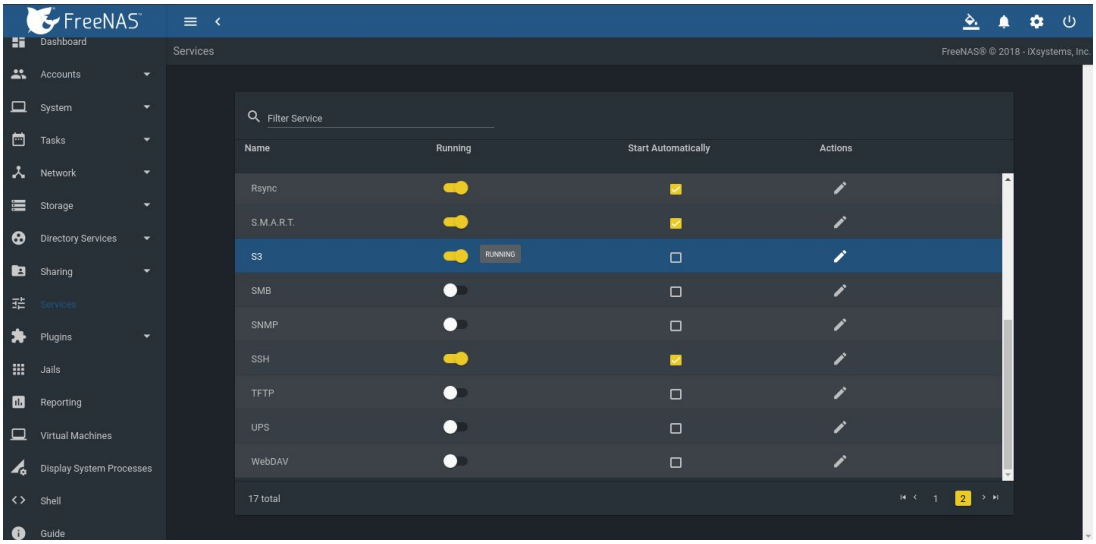


Set up the configuration inside this window.

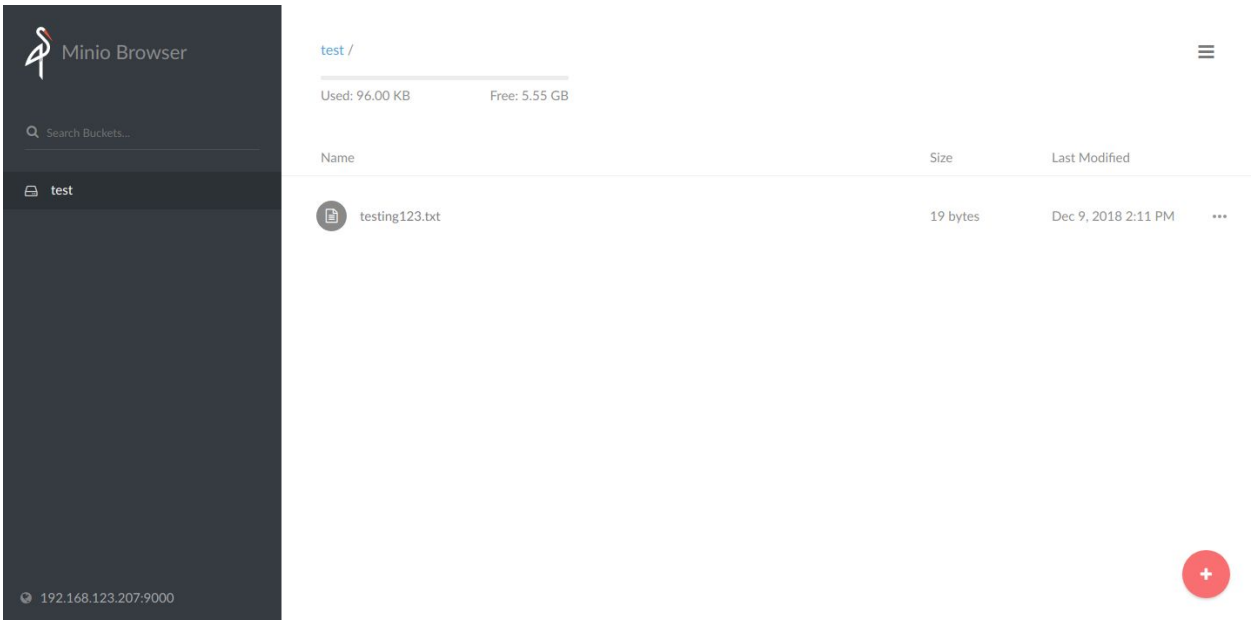


- Select IP address **0.0.0.0** to allow the service to listen on any IP address. Select the FreeNAS IP address to constrain it to a specific network.
- The default port is **9000**, but it can be changed as needed.
- Set an access key and secret key.
- Select a clean dataset. Files are managed by Minio as objects, and can NOT be mixed with other dataset files. New datasets can be created by going to **Storage -> Pools -> three dot menu** -> **Add Dataset** to create a new one.
- Choose to allow an S3 web browser (Minio Browser).
- Choose an SSH certificate for more secure connections.

Start the service and select whether to start automatically (on system boot).



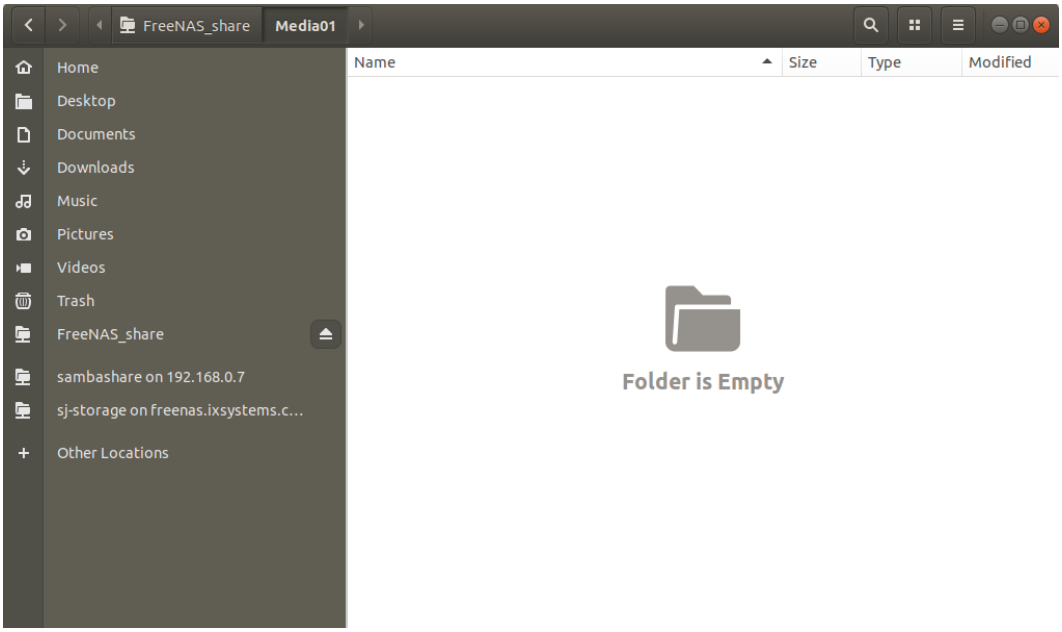
Test access to the Minio Browser by opening a web browser and typing the FreeNAS IP address with the TCP port. For example: **http://192.168.0.3:9000**



Buckets and files can be created and uploaded using the Minio Browser.

NOTE: Port **9000** must be allowed through the client firewall to permit bucket creation and file uploads.

NOTE: Files uploaded as S3 objects are NOT visible using standard file folders shared over standard file shares (NFS, AFP, SMB, FTP, etc.).



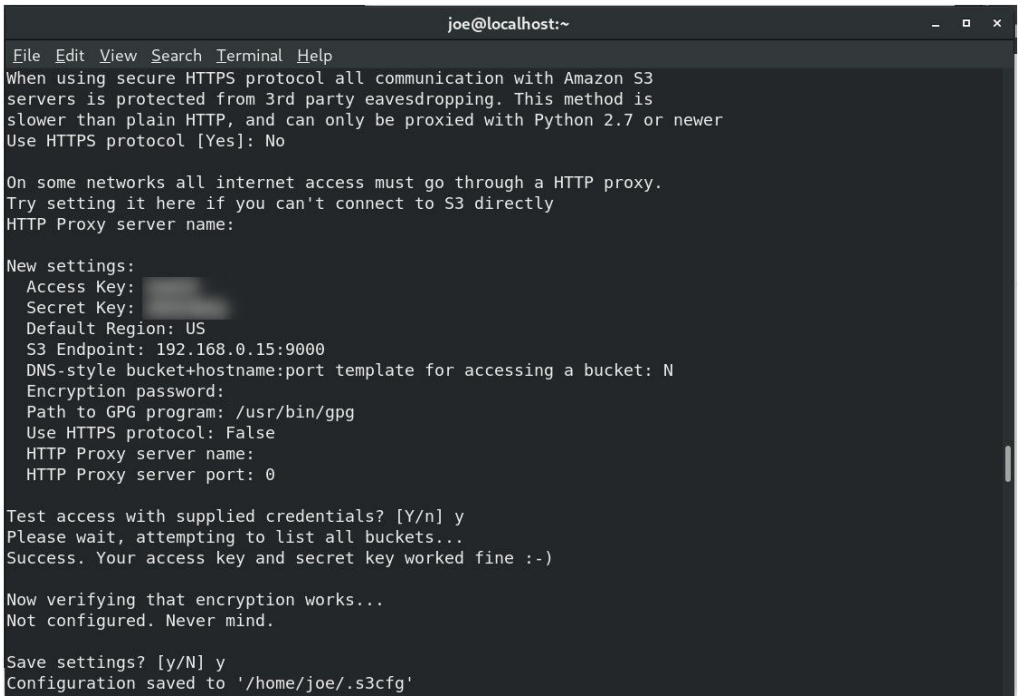
Setting Up s3cmd

Linux or macOS users must have the s3cmd service installed before beginning this setup. On Windows, users can also refer to S3Express for a similar command line experience.

Ubuntu can access the configuration by running **s3cmd --configure** to walk through important settings.

Enter the specified access key and the secret key. Under the **S3 Endpoint** enter the FreeNAS IP address followed by TCP port, and reply **N** to the DNS-style bucket+hostname.

Save the file. On Linux the default is in the home directory **~/.s3cfg**.



If the connection has any issues, open the config file again to clean it up. In Ubuntu use **nano .s3cfg** or **vi .s3cfg** or **gedit .s3cfg** depending on the preferred text editor. For other operating systems, .s3cfg file location and editing tools may vary.

Scroll down to the `host_bucket` area and make sure the **`%(bucket)s.`** portion is removed and the address points to the IP_address:TCP_port for the system.

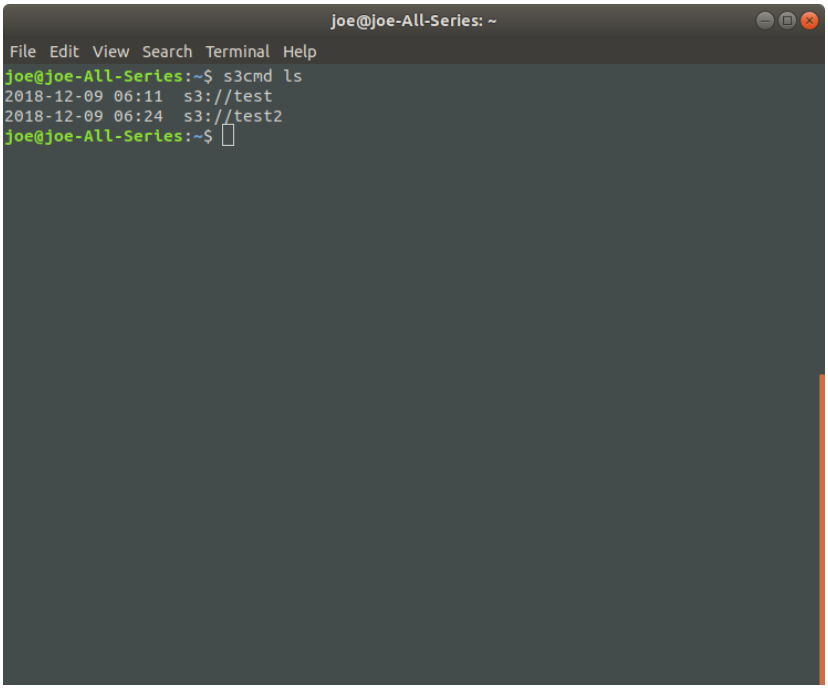
Right

```
host_base = 192.168.123.207:9000
host_bucket = 192.168.123.207:9000
```

Wrong

```
host_base = 192.168.123.207
host_bucket = %(bucket)s.192.168.123.207
```

Poll the buckets using **`s3cmd ls`**. The buckets created with the Minio Browser should be visible.

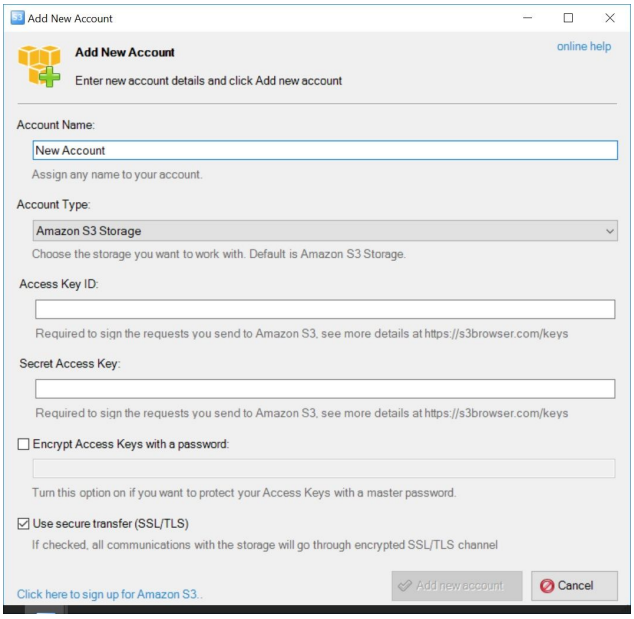


For more information on using Minio with s3cmd, see:
https://docs.minio.io/docs/s3cmd-with-minio.html
https://s3tools.org/s3cmd

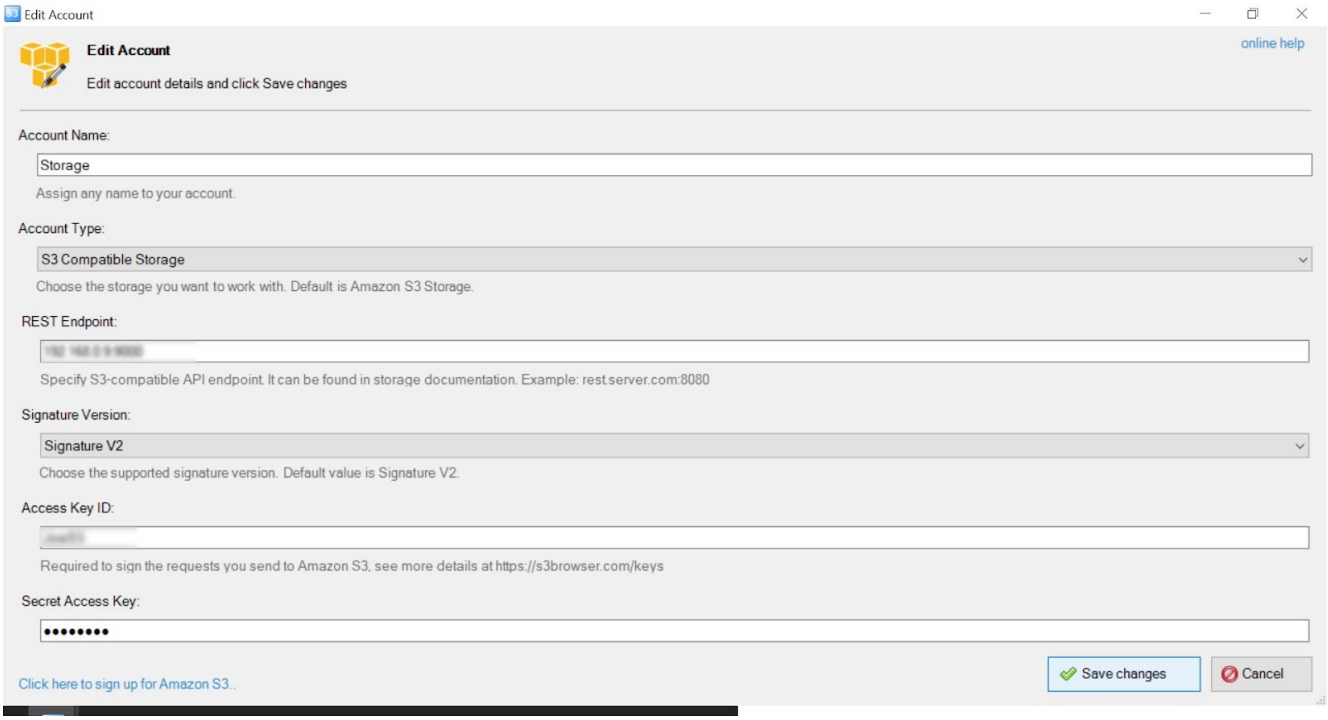
Connect with S3 Browser

On Windows PCs, the S3 Browser is another convenient way to connect to the Minio S3 on a TrueNAS or FreeNAS system. To set it up, first install the S3 Browser.

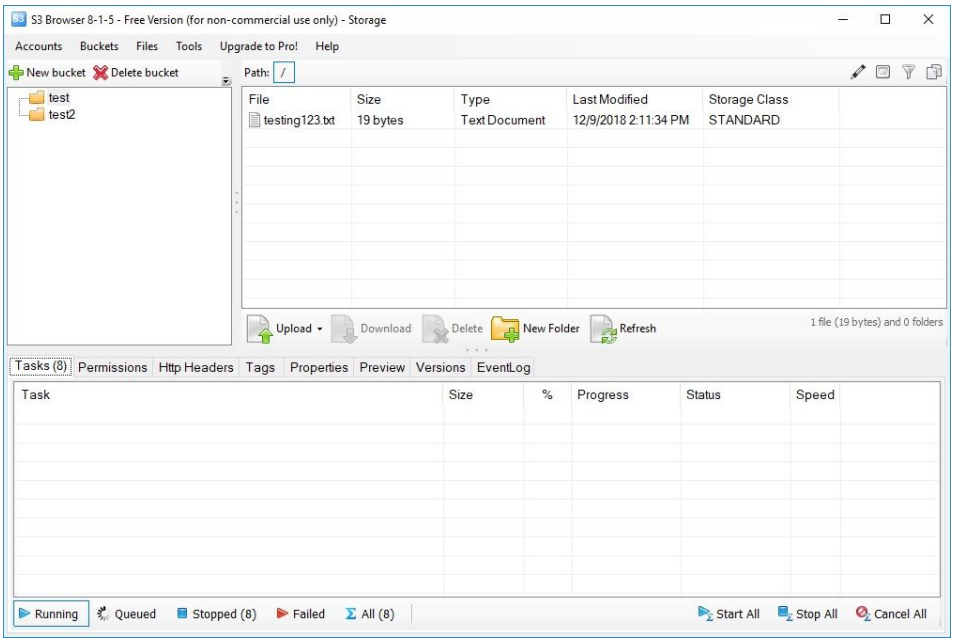
After installation completes, add a new account.



In the settings, select **S3 Compatible Storage** as the **Account Type**, then enter the Minio access point similar to the S3cmd setup (*FreeNAS_IP_address*:*9000* or other port if set differently). Select the SSL settings appropriate for the particular setup. The default assumes SSL in S3 Browser, but for a LAN attached session, this may or may not have been set.



It is possible to access, create new buckets, or upload files to created buckets.



We hope that this guide will help you quickly set up and attach an S3 object storage manager of your choice. For any questions or inquiries, please contact us.