

Spectrum Collaboration Challenge (SC2)



www.SpectrumCollaborationChallenge.com

Uploading Solutions to an S3 Bucket - Revision 1

1/11/2018



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Document Change Summary

Section	Description	Date
ALL	Initial Release, Rev 1	Jan 11, 2018

1 Introduction

This document will explain how to connect to an Amazon S3 bucket and upload files using both a Windows based graphical interface as well as the s3cmd command line interface on Linux. Firefox users may also use the S3Fox plugin available here: <http://www.s3fox.net/> but this tutorial will not cover how to use that plugin.

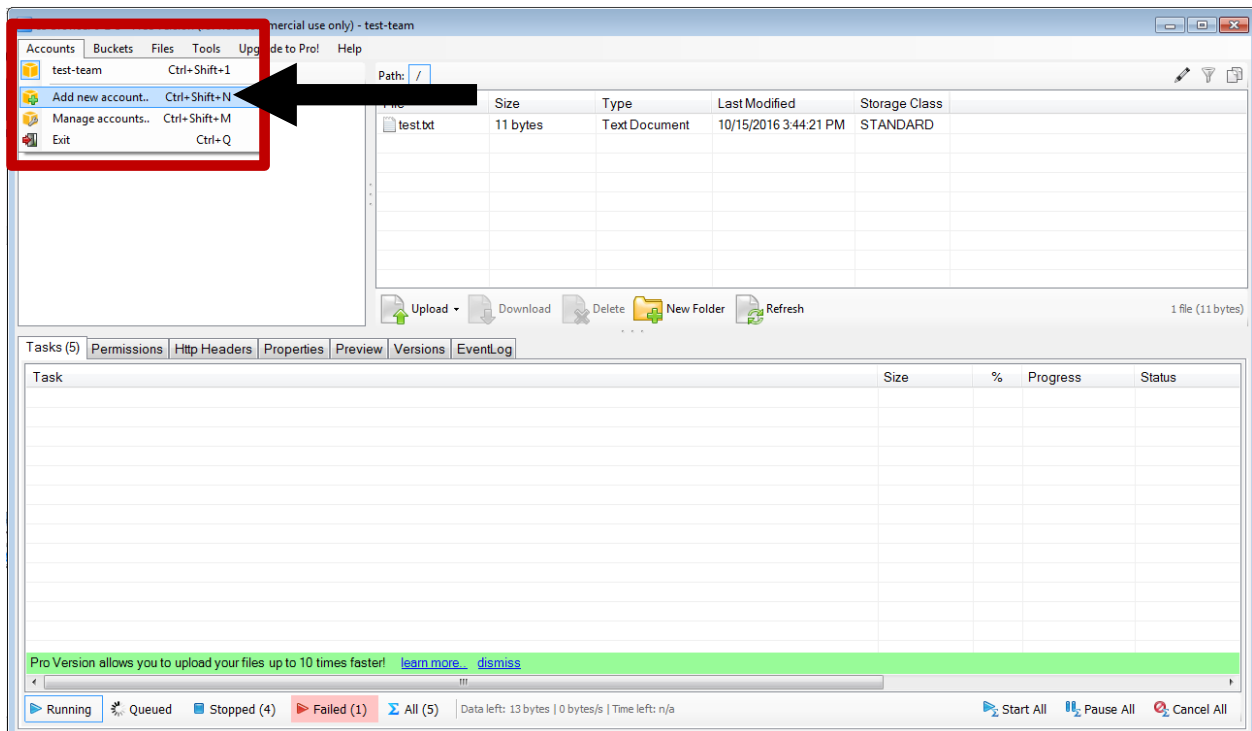
2 S3 Browser

S3 Browser is a freeware Windows client for Amazon S3 that provides a graphical interface for browsing, uploading, and downloading files from S3 buckets. See the following link for instructions on how to download and install S3 Browser: <http://s3browser.com/>

2.1 Configuring Your Account

If you've previously configured your account for downloading files, you can skip to Section 2.2. Otherwise, continue reading.

Once the S3 Browser is installed, launch it to get to the main window. Click on the Accounts menu item in the upper left of the main window and select "Add new account"



That should bring up the Add New Account dialog shown below:

Add New Account [online help](#)

Enter new account details and click Add new account

Account Name:

You can assign any name to your account.

Storage Type:
Amazon S3 Storage
Choose the storage you want to work with. Default value is Amazon S3 Storage.

Access Key ID:

Access Key ID can be found here: https://console.aws.amazon.com/iam/home?#security_credential

Secret Access Key:

Secret Access Key can be found here: https://console.aws.amazon.com/iam/home?#security_credential

Encrypt Access Keys with a password:

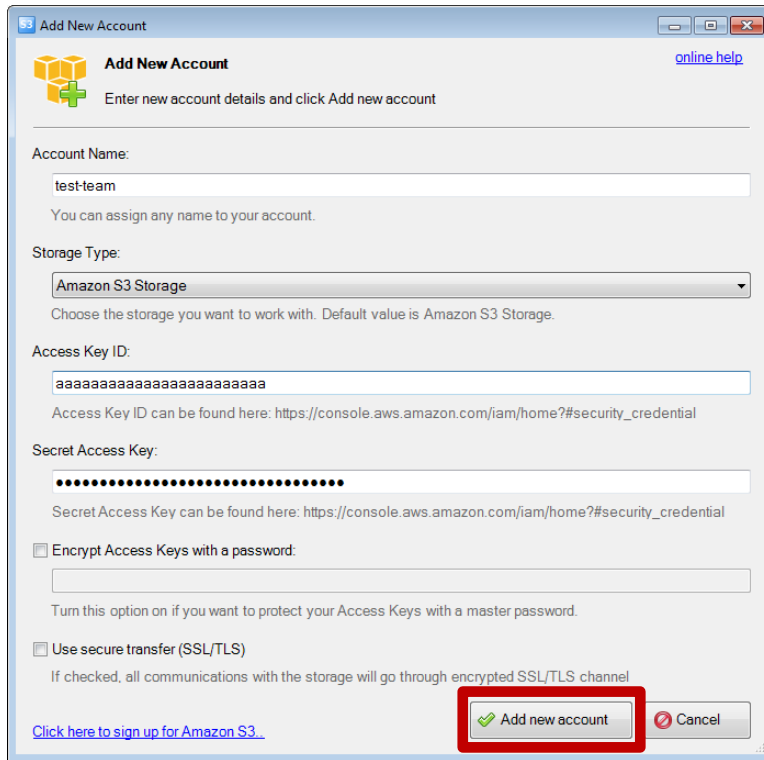
Turn this option on if you want to protect your Access Keys with a master password.

Use secure transfer (SSL/TLS)
If checked, all communications with the storage will go through encrypted SSL/TLS channel

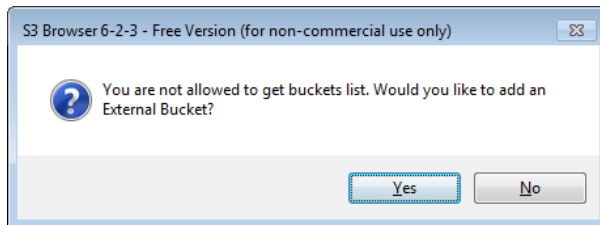
[Click here to sign up for Amazon S3.](#)

Each Open Track team should have received an email with their Amazon S3 credentials. It will have been sent to the email address provided during the Open Track signup process. Fill in the Account Name, Access Key ID, and Secret Access Key fields using the information in that email.

Once the Account Name, Access Key ID, and Secret Access Key fields are filled in, click on the “Add new account” button in the lower right of the dialog box.



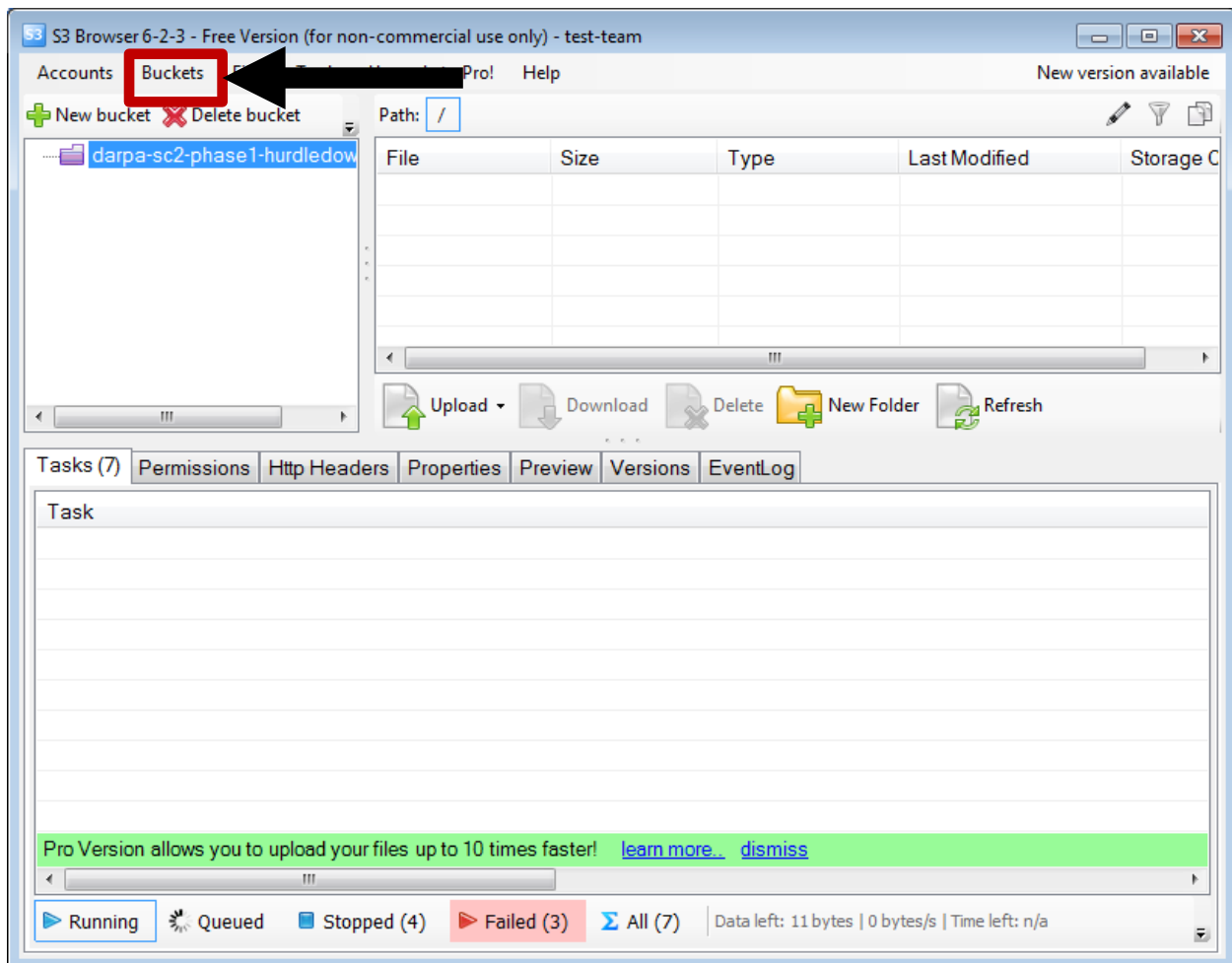
You should then see a popup like the following:

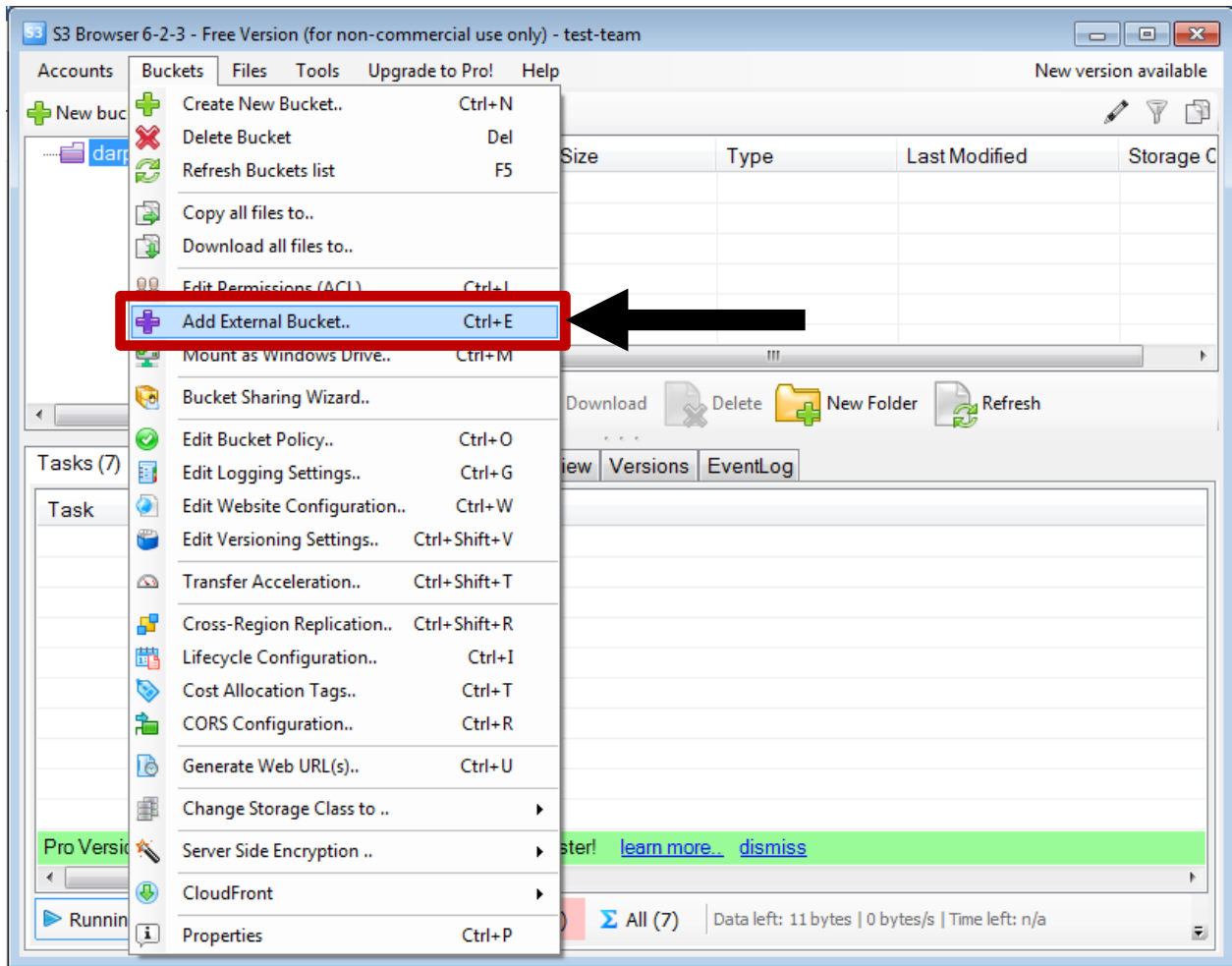


This is the expected behavior. Click Yes.

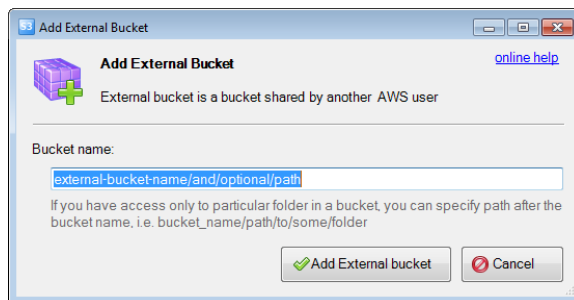
2.2 Adding External Buckets

The Add External Bucket dialog box should be automatically shown. If it is not visible, click on the Buckets menu at the top of the screen and select “Add External Bucket”.

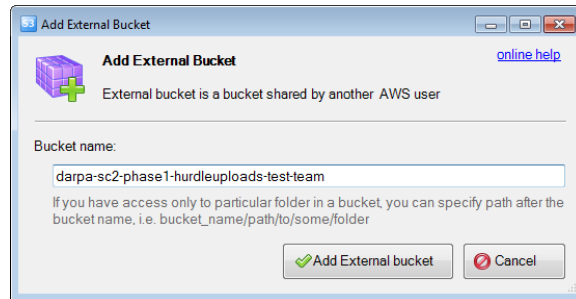




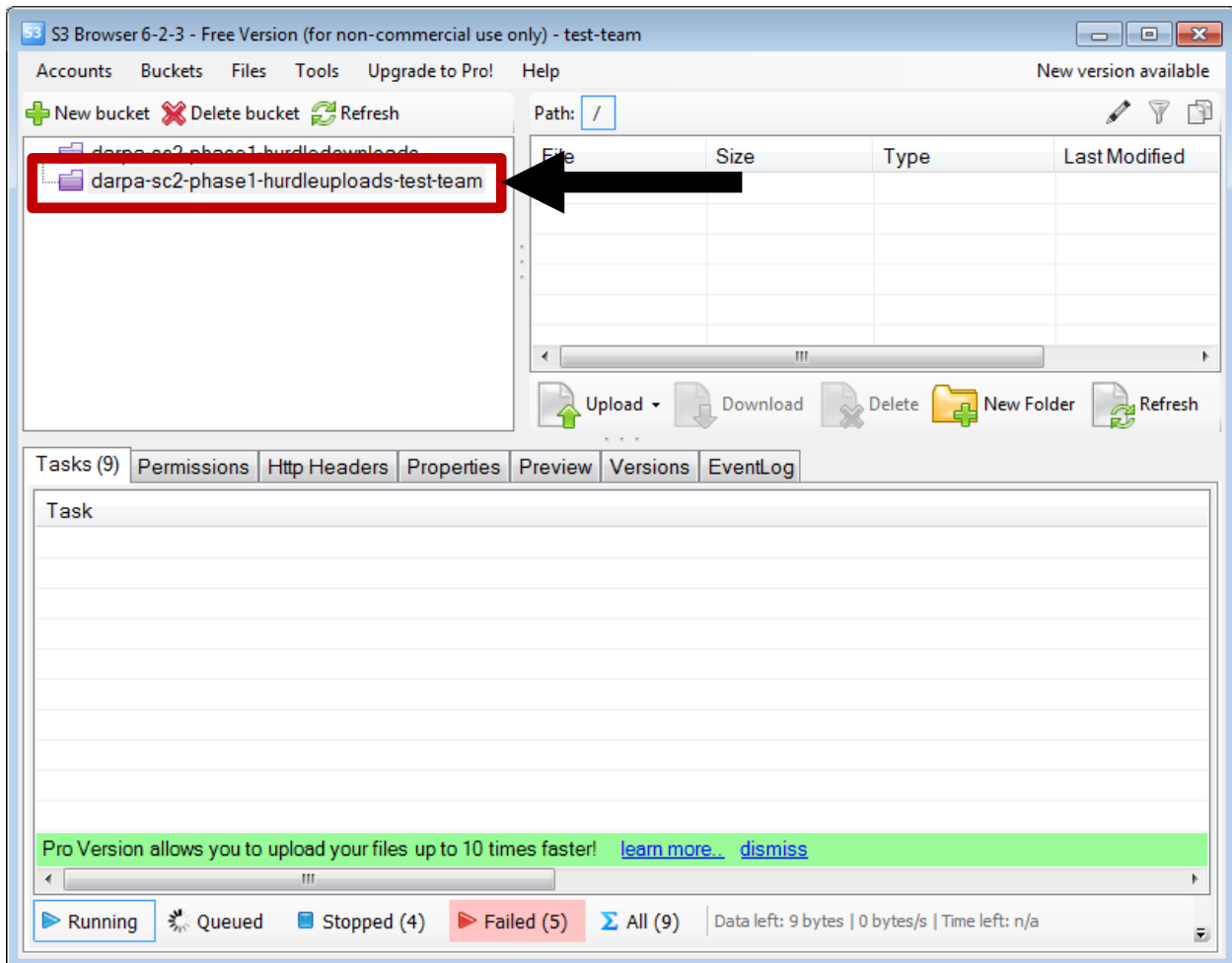
This should bring up the box shown below.



Enter “darpa-sc2-phase2-hurdleuploads-test-team”, replacing test-team to match the name of the bucket sent to you along with your AWS credentials.

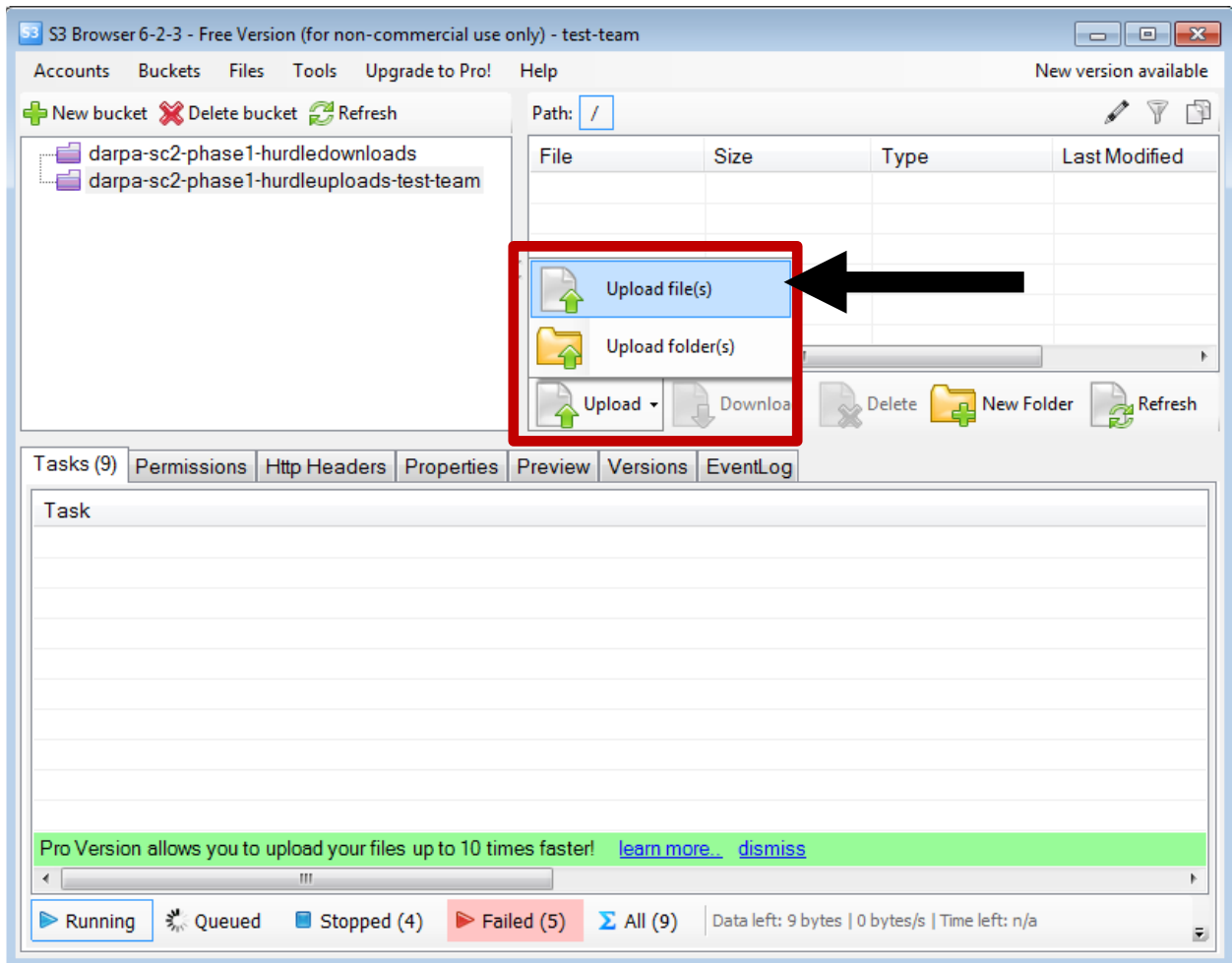


Click the “Add External bucket” button. If you are successful, you should see the new bucket show up in the list of buckets you have access to in the main window:



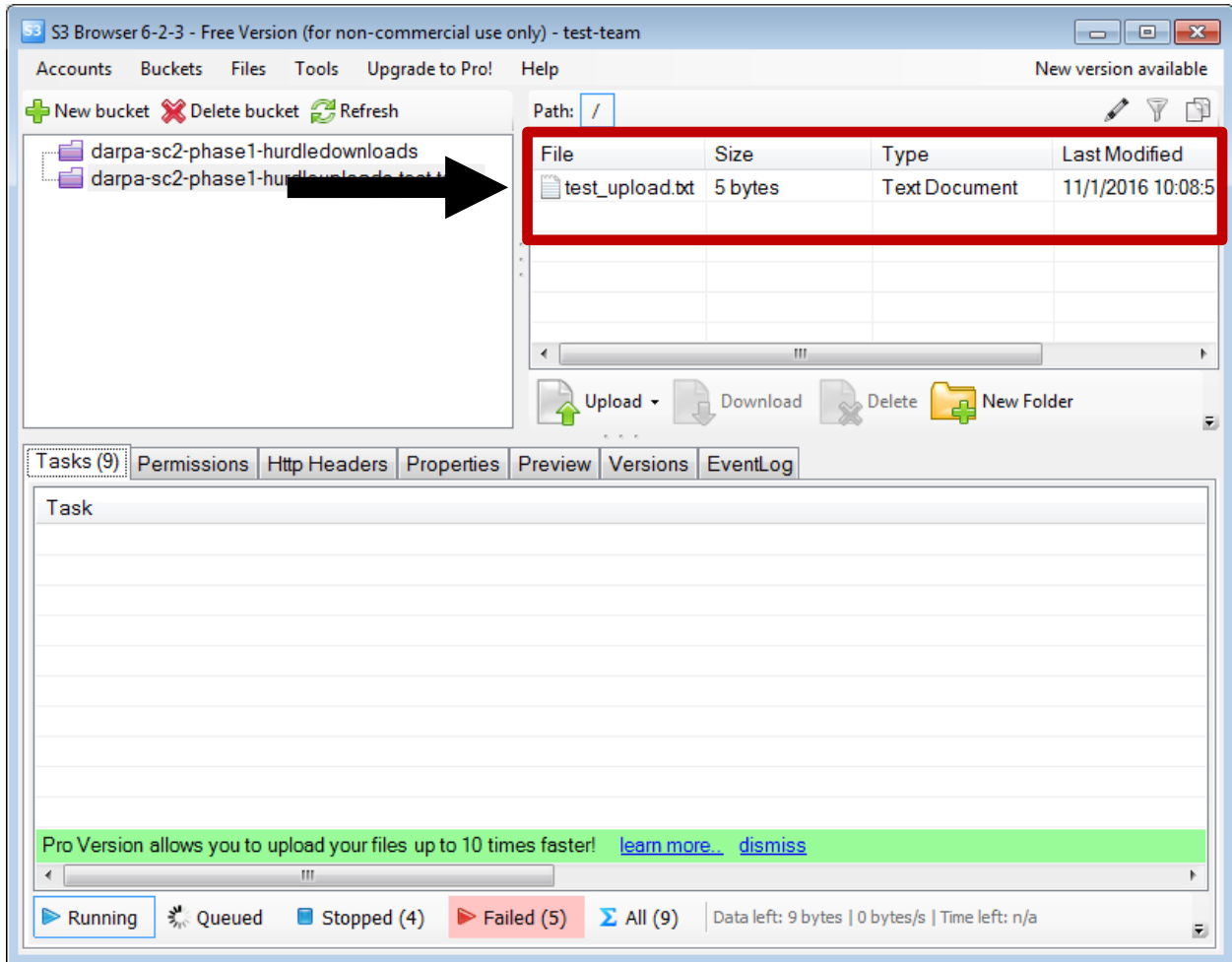
2.3 Uploading Files

Once your account is properly configured and your team's hurdle uploads bucket has been added to S3 Browser, upload a test file by clicking the Upload button and selecting "Upload file(s)":



A standard file chooser window will open up. Select a small test file and upload it. In this case, a text file containing "Hello World" written in Notepad was chosen.

If the upload is successful, the file will show up in the Path pane:



3 S3cmd

S3cmd is a free command line interface to S3 used to upload, retrieve, and manage data stored on Amazon S3. See: <http://s3tools.org/s3cmd>

Either download and install S3cmd from SourceForge or GitHub as described here: <http://s3tools.org/download> or install S3cmd from your Linux distribution's repository as described here: <http://s3tools.org/repositories>

3.1 Configuring S3cmd

If you've previously set up your account to download files from S3, skip to Section 3.2. Otherwise, continue reading below.

Open up a terminal and run:

```
s3cmd -configure
```

You will be prompted for your Access Key and Secret Key. Each Open Track team should have received an email with their Amazon S3 credentials. It will have been sent to the email address provided during the Open Track signup process. Use the Access Key and Secret Key from that email now.

You will also be prompted for the following:

- Encryption Password: Using a password here would result in all of your uploads being automatically encrypted when stored on S3. Don't fill this in or the SC2 team will be unable to use files you upload later. Just press the enter key.
- Path to GPG Program [/usr/bin/gpg]: The default value should be fine. Just press the enter key.
- Use HTTPS protocol [No]: This will encrypt your uploads and downloads in transit only. Using HTTPS is not required. The default should be fine. Press the enter key.

Finally, s3cmd will prompt you with the following:

```
Test access with supplied credentials? [Y/n]
```

Do not test access, as the SC2 team expects this test to fail. Open Track teams do not have permissions to list all of the S3 buckets associated with their account, causing this test to fail. Type "n" and press enter, and then type "Y" to save your settings.

3.2 Testing Your Account

Test your account settings by uploading a small text file. Create a text file named `test_file.txt` in the editor of your choice and upload it by running the following command, replacing the `test-team` bucket with the bucket name sent to you along with the rest of your S3 credentials:

```
s3cmd put test_file.txt s3://darpa-sc2-phase2-hurdleuploads-test-team/
```

If your account is properly configured, you will see upload progress indications followed by “done”.

```
test_file.txt -> s3://darpa-sc2-phase2-hurdleuploads-test-team/  
test_file.txt [1 of 1]  
12 of 12 100% in 0s 272.86 B/s done
```

Run the following command to see that the file is in fact, in your team’s bucket:

```
s3cmd ls s3://darpa-sc2-phase2-hurdleuploads-test-team/
```

See <http://s3tools.org/s3cmd-howto> for more details on working with `s3cmd`.

4 Uploading Solutions

Your solution should be uploaded as a tar.gz file, as generated by LXD. You will need to stop your solution container, publish it as an image, and then export that image. Note that you should upload your solution container, and not the Hurdle container with an embedded solution container. The linux LXD commands to achieve this are as follows:

```
lxc stop <your_solution_container_name>
```

The command above will stop your container if it is currently running. Next, generate an image from your container. Your image name can match your container name if you like but they are not required to match.

```
lxc publish <your_solution_container_name> --  
alias=<your_solution_image_name>
```

Finally, export your image to a .tar.gz file in your current directory. Make sure to use the image name specified in the step above, not the container name.

```
lxc image export <your_solution_image_name>  
<your_solution_image_name>.tar.gz
```

Upload the resulting .tar.gz file into darpa-sc2-phase2-hurdleuploads-test-team/, replacing your bucket name as appropriate.

You should have one and only one file in your hurdle directory.