Flow
Installation Guide

Version 2019.3
August, 2019

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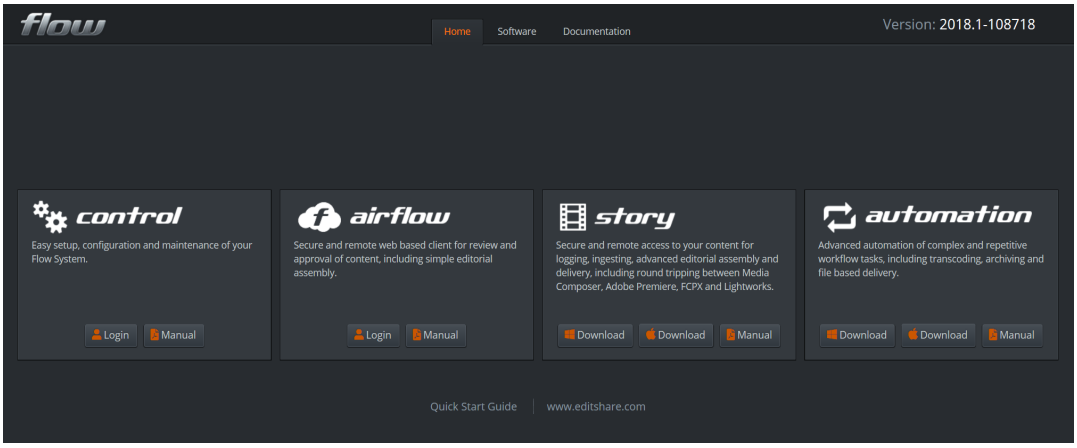
Contents

Chapter 1: Overview

Before attempting the tasks described in this Installation guide, ensure that you have the correct permissions. If you are unsure, consult with your system administrator.

A Flow system is comprised of the following components:

- Flow Control
- AirFlow
- Flow Story
- Flow Automation



Flow Control

Flow Control software is for Administrators of the Flow system, and is used to configure and manage Flow Ingest, Database and Proxy servers. Most users do not need to have, or should have, access to it. As an Administrator, Flow Control lets you define:

- The license that the server uses.
- User accounts for products and features and storage they are allowed to access.
- Custom metadata templates.
- The proxy codec you will use, if any.
- Storage Spaces to be scanned into the Flow Database.
- Schedules for scanning new media into the Flow Database.

AirFlow

AirFlow initiates on-premise storage, creating a user specific private cloud. When accessed using a web browser, AirFlow provides review and approval, and other collaborative workflows, and provides media sharing capabilities. These features are provided within a secure environment, with complete remote access from anywhere in the world.

AirFlow's simple design allows users to search, log, organize, and review content, as well as the ability to upload and download content directly to and from on-premise storage systems. When used with Flow Automation, AirFlow allows users to trigger automation tasks, providing a powerful means to access enterprise level workflows by using a simple Internet connection.

Flow Story

Flow Story is content creation application aimed at fast turnaround environments, such as News, Sports and Reality TV. It provides editors and assistants with the tools to edit and package content for finishing, delivery or playout. With the added ability to edit content remotely Flow Story is the ideal location editor. It includes upload and download features, real time collaboration with other Flow Story users and all the tools you'd expect in a powerful and full-featured media management application. No extra cost or hardware is required for the proxy and remote editing capabilities. With a wide range of format support, including RED R3D, XAVC, Blackmagic RAW and DPX, along with industry standard production codecs; such as Apple ProRes and Avid DNxHD. Flow Story works seamlessly, in real time with any content, local or remote, on the same timeline.

Flow Automation

Flow Automation removes the complexities of dealing with large amounts of content and provides a simple, but powerful, way of dealing with complex or repetitive tasks, such as batch ingest, transcoding, QC'ing, or delivering content to third parties. With a node-based interface, Flow Automation combines predefined triggers and tasks to help users you build workflows that can be used by other team members. In addition, Flow Automation provides a comprehensive job monitor and audit trail that allows users to monitor each step of the process wherever the content is located.

Chapter 2: Install Procedure

This Installation Guide takes you through the following steps to install a complete Flow system:

STEPS

1. "Chapter 3: Creating an EditShare Account" on page 11
2. “Chapter 4: Installing the Flow Server” on page 15
3. “Chapter 5: Configuring Disks Media/Proxy Storage (Optional)” on page 25
4. “Chapter 6: Preparing Storage for use with Flow” on page 27
5. “Chapter 9: Installing Flow Story” on page 52.
6. “Chapter 10: Installing Flow Automation” on page 54
7. “Chapter 11: Updating the Flow Server” on page 56
8. “Chapter 12: Installing Additional Applications” on page 60

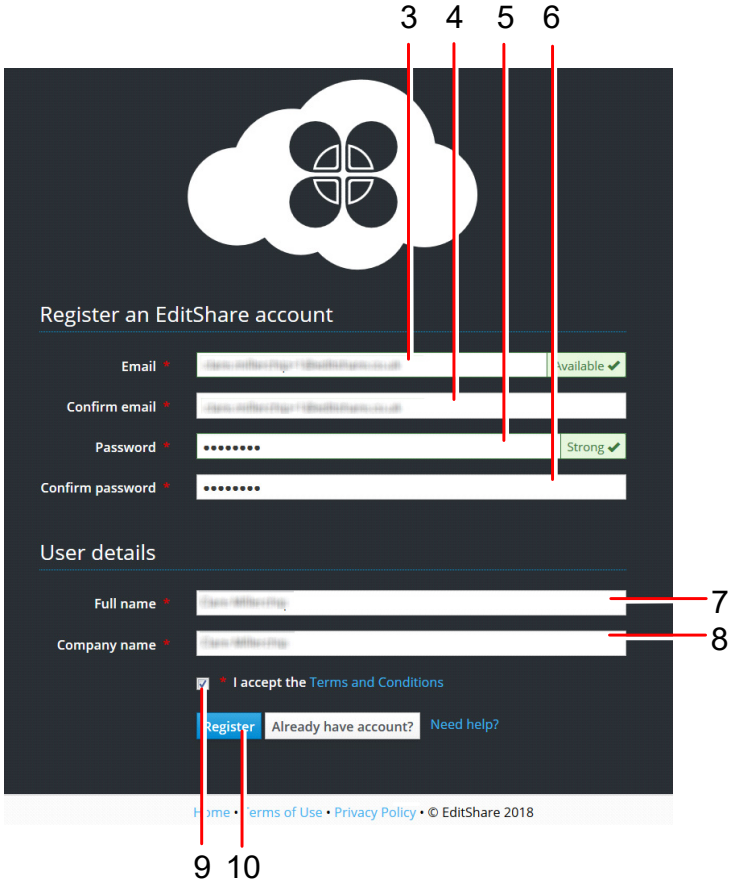
Chapter 3: Creating an EditShare Account

To access Flow and its components, you must register an account so that you can gain access to the Flow portal to download the trial version of the software. You can then use these details to activate the server trial license or purchase a license.

To create an EditShare account, do the following:

STEPS

1. In your web browser, navigate to https://my.editshare.com/login
2. Click Create Account.
3. Enter your email address.
4. Enter your email address again in the Confirm email field.
5. Enter a password for the account.
6. Enter the password again for verification.
7. Enter your full name.
8. Enter the name of your company.
9. Click on the Terms and Conditions link, read and confirm that you agree by selecting the checkbox.
10. Click Register.



Signing in to the EditShare Portal

To sign in to the EditShare portal, do the following:

STEPS

1. In your web browser, navigate to https://my.editshare.com/login
2. Enter your email address.
3. Enter your password.
4. Click the Sign In button.

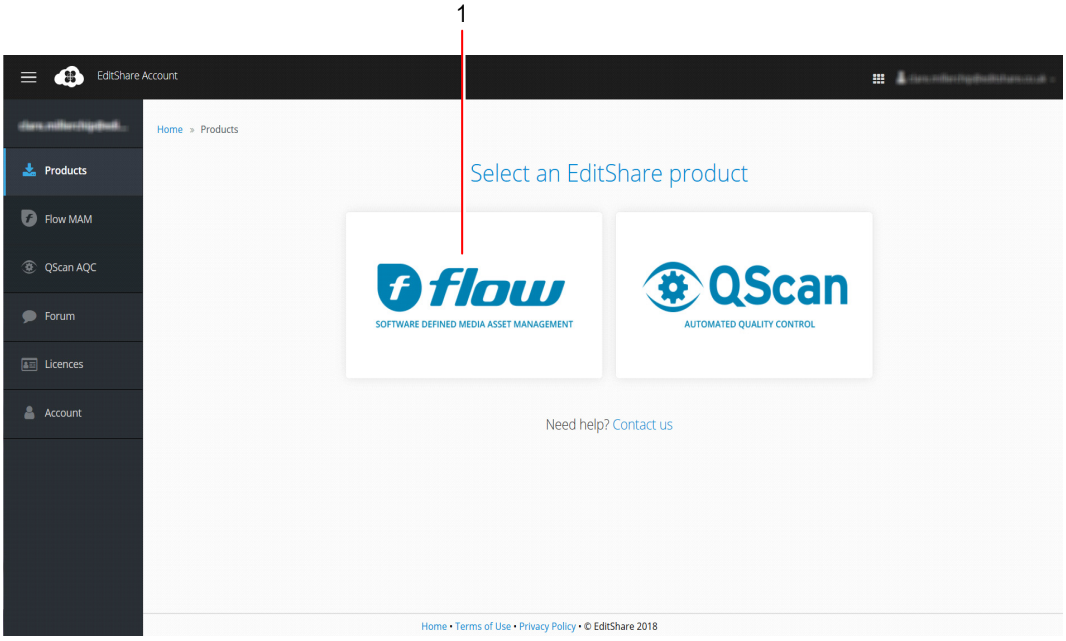
Accessing the Flow MAM download page

When you have created an EditShare account you must select the Flow MAM option from the portal, and supply more details to gain access to Flow.

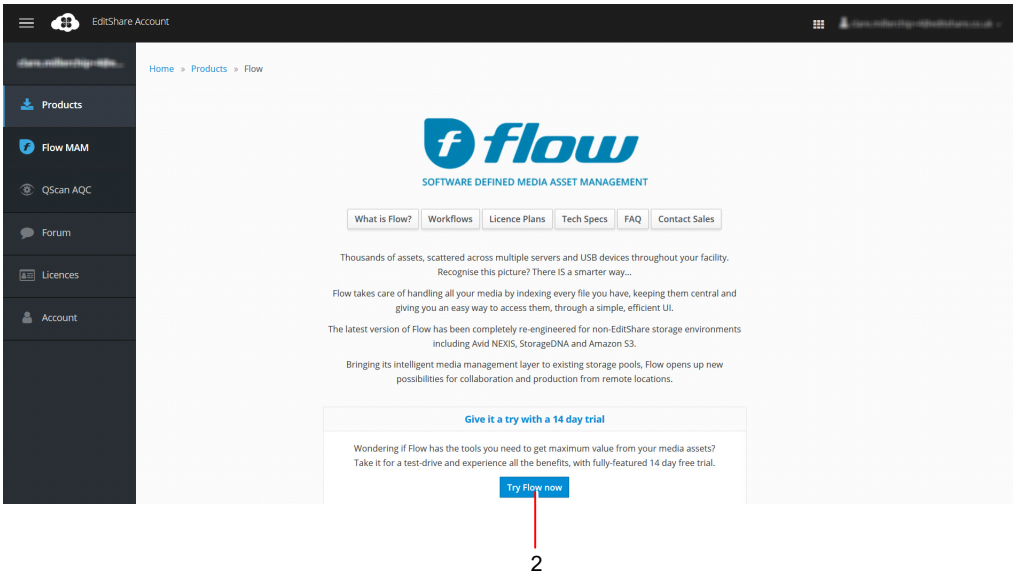
To select Flow and complete the necessary information to gain access, do the following:

STEPS

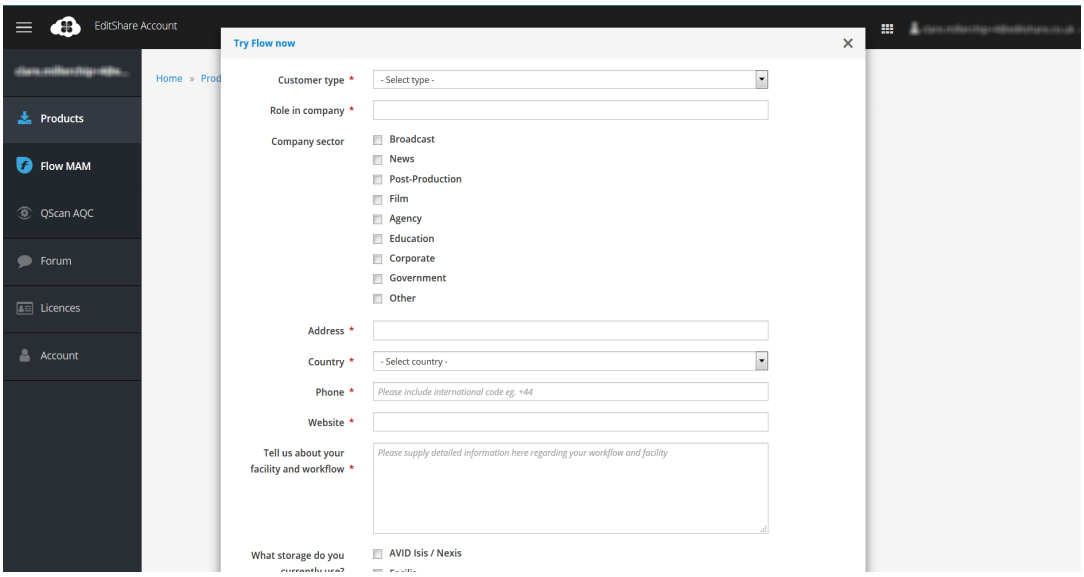
1. From the EditShare portal page, select the Flow MAM product.



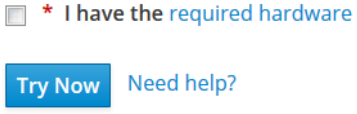
2. Click the Try Flow Now link:



3. Complete the fields in the Try Flow Now form to gain access to Flow:



4. When you have completed all of the fields, click in the required hardware check box to select it and click Try Now:



5. Follow the on screen installation instructions. See "Chapter 4: Installing the Flow Server" on page 15 for more information.

Chapter 4: Installing the Flow Server

Overview

The new version of Flow MAM software, designed for non-EditShare storage environments such as Avid NEXIS, Storage DNA and Amazon S3. As a fully software defined MAM platform, Flow has been completely re-engineered to maximize the value of existing storage infrastructure by adding an intelligent media management layer that can manage millions of assets across multiple storage tiers in different locations.

Flow requires a Linux Ubuntu machine or VM or cloud instance to install Flow on. See the Preparing Your Machine section.

When installing to a VM or machine on your local network you need a Windows or macOS workstation to run the Flow installer on.

See the following topics:

Preparing Your Machine

Current Flow Installer Limitations

- Do not close the application during installation.
- You will not be able to run the installation again on the same system.

System Requirements

- 4 CPU cores.
- 8 GB RAM.
- 64 GB Disk.
- 1 GB Network Interface.

Proxies are stored on system disk so add on what you think the proxy storage needs to be:

- Flow and its packages currently needs about 5 GB.
- Proxy storage at 1mbit/sec is approximately 2 hours per GB.

IMPORTANT: These are the minimum system requirements. If you have heavy workloads, a lot of content, or a large number of users, consider using a higher specification machine.

Supported Cloud Environments

- Amazon AWS.
- Microsoft Azure.

•When you start an Azure VM make sure that the deployment model is set to "Resource Manager".

Supported Virtual Machines

- VMware (Workstation, Fusion, ESXi).
- VirtualBox.
- Hyper-V.
- oVirt.

Installing Ubuntu 16.04

You need a Ubuntu 16.04 Server image from the ubuntu website:

http://releases.ubuntu.com/16.04/

For example, if you use the 16.04.4 iso, the filename of the iso image is:

Ubuntu-16.04.4-server-amd64.iso

Restricted Usernames for Ubuntu setup

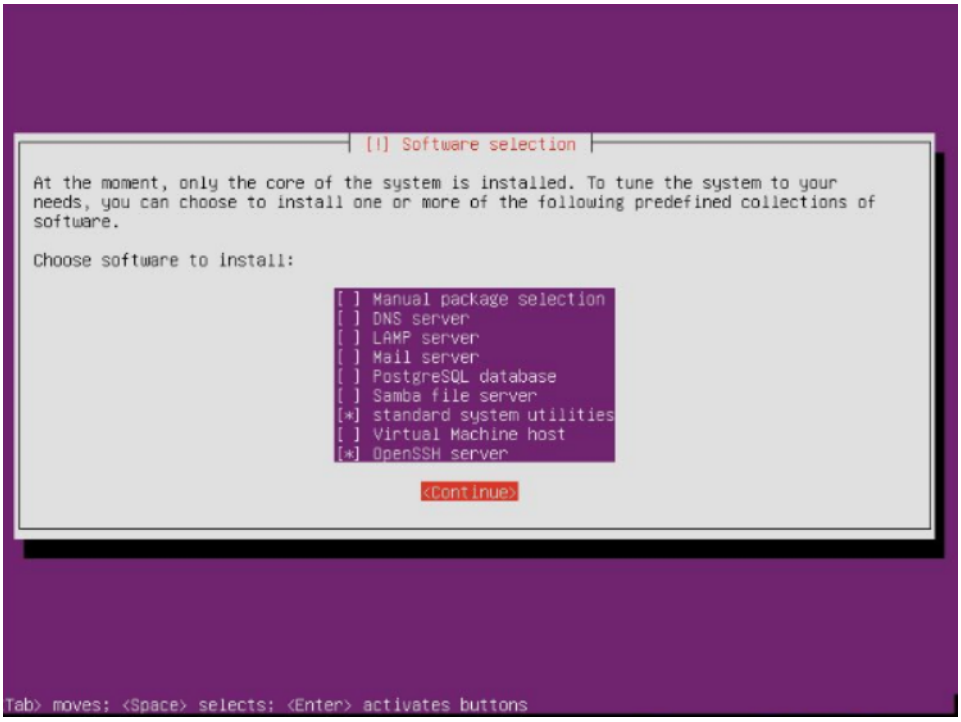
PREREQUISITE There are usernames that can have special meaning within the Flow and EditShare environment. To avoid any confusion or conflicts between the system users created by the customer and those automatically created during the installation of Flow and EditShare services.

Please **do not** use the following usernames:-

- editors
- editshare
- flow
- geevs
- _adsso_editors
- _ark
- _flow
- _flow_proxy

STEPS

1. Follow the instructions on the screen for setting up an Ubuntu Server.
2. Pay particular attention to the Software Selection screen.
3. Select: Standard system utilities and OpenSSH Server using the spacebar.
4. All other software to install should be left unselected. (See example image below):



5. Reboot after installation.
6. Login as the user you created during the install process.
7. Make sure you are connected to the Internet.
8. Update Ubuntu by typing:

```
sudo apt-get update
sudo apt-get upgrade
```

9. To find the IP of the installed machine type:

```
ifconfig
```

10. This is the IP address you need for the Flow Installer Setup below.

AFTER COMPLETING THIS TASK: When you get this far, if you are running in a virtual environment now is a good time to make a snapshot.

Please do not use a number (e.g. '123') for the hostname as this can cause issues with services running on the Flow server. If a number is used, a notification requesting the hostname to be changed will be displayed in Flow Control.

Installing Flow Server Software

The flow server install application can be run from a Windows or Mac client targeting the Ubuntu system.

Downloading the Flow Server Client Installer

To download the Flow Server Client Installer, do the following:

STEPS

1. Register for an EditShare account if you have not already done so.
2. Go to the portal page https://my.editshare.com/login and sign in.
3. Go to the Downloads page and make sure the Flow MAM tab is selected.
4. Select the Windows or Mac installer and download it to your system.

Opening The Flow Server Installer

PREREQUISITE You must have a system setup running Ubuntu 16.04 and configured. See the Installing Ubuntu 16.04 section. The system must be setup with a valid IP address, username, and password and you must know these details before installing the Flow Server application.

STEPS

1. Double click the downloaded installer file. The package installer opens. If you are installing on Windows, proceed to step 4.
2. On Mac systems, drag and drop the `Flow.app` file over the Applications folder to install it.
3. On Mac systems, navigate to the Applications folder and double-click `Flow.app` to start Flow. Please see the troubleshooting section should you experience any issues.
4. Now you can install the Flow Server Software. See "Running the Flow Server Installer" on page 20.

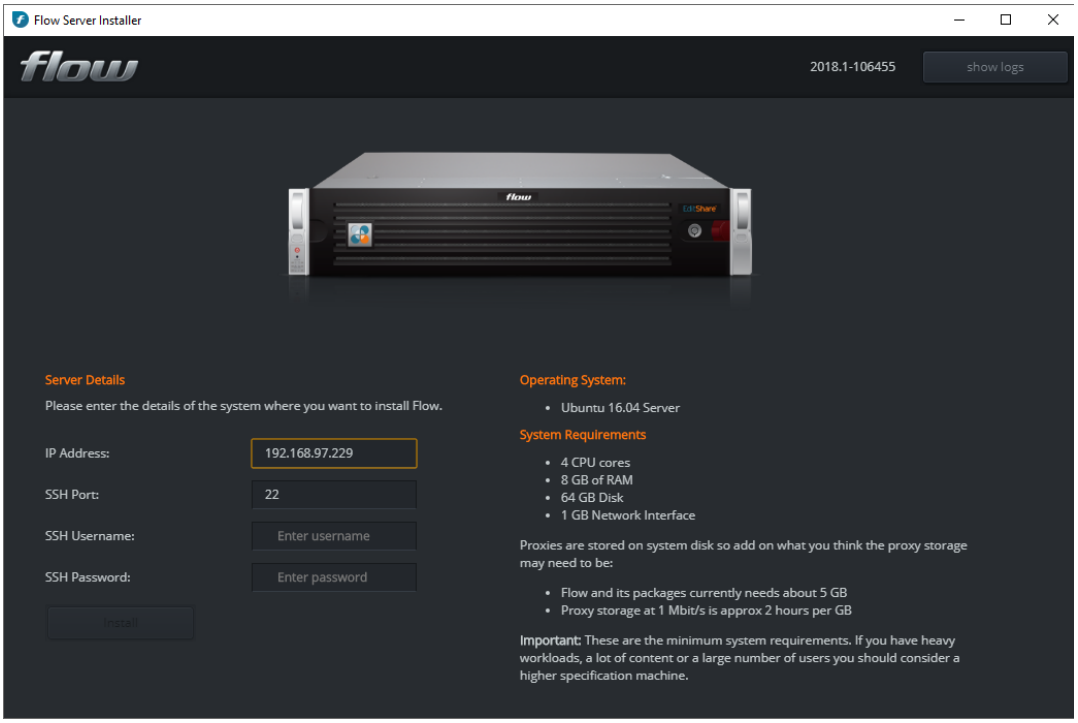
Running the Flow Server Installer

STEPS

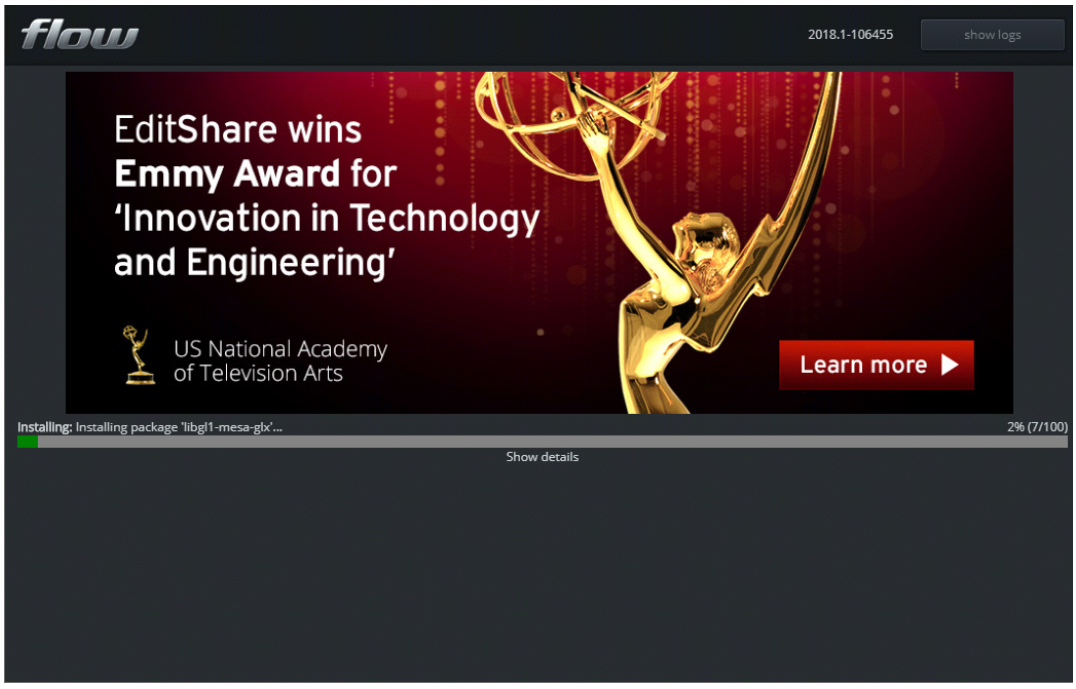
1. When you launch the installer file the first installer page displays.

2. Click Install.

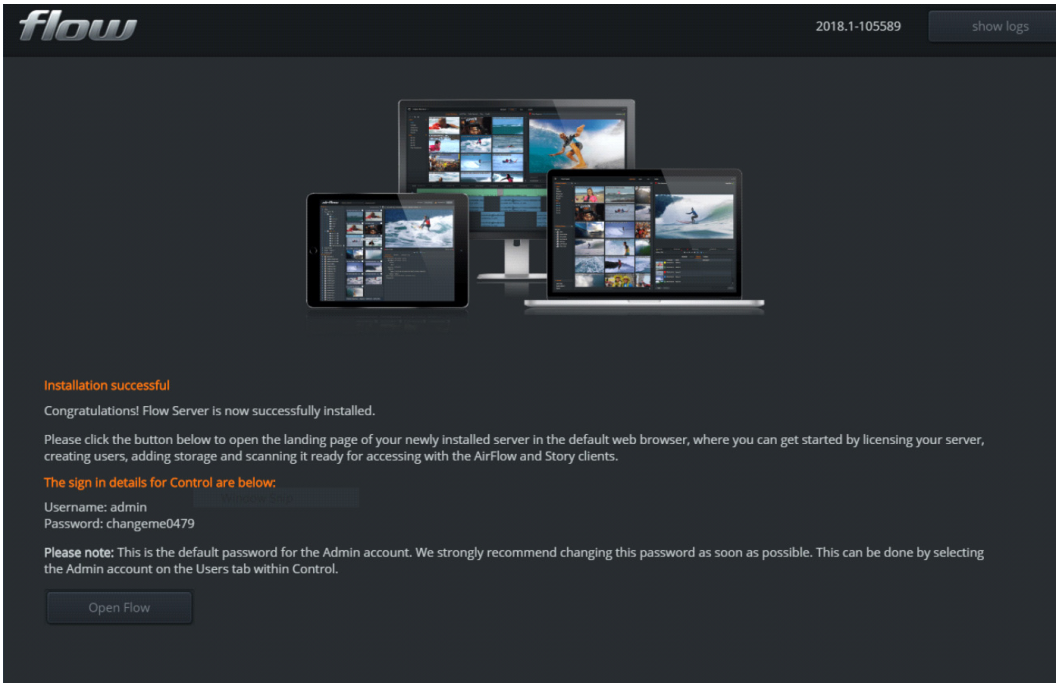
3. On the second installer page enter the IP address of the server you installed as part of the prerequisite. See the Installing Ubuntu 16.04 section. Port 22 is selected by default as the SSH Port:.



4. Enter the Username and Password that you installed as part of the Ubuntu installation. See the Installing Ubuntu 16.04 section.
5. Click Install.
6. The installation process begins, (this takes approximately 15 - 20 minutes to install):



7. When installation is complete the Installation successful screen displays:



8. Click the Open Flow button. The Flow landing page is displayed in the default web browser.

Cloud Installation (installing without using the Flow Installer)

STEPS

1. ssh to the Ubuntu instance you have created. Make sure the Ubuntu instance is up to date you should have already done this is in the "Installing Ubuntu 16.04" on page 17 section.

   ```
   sudo apt-get update && sudo apt-get upgrade
   ```

2. Run the following:

   ```
   sudo apt-get install python-minimal
   wget https://flow-installers.editshare.co.uk/setup-flow.py
   sudo python setup-flow.py
   ```

   This will install Flow on the instance. Once done you must ensure firewall/instance access - see the section on ports below.

3. Open your Chrome browser at `https://<your machine>:8009` to access the Flow Control application and login with the default credentials:

   - Username: admin
   - Password: changeme0479

4. The following ports must be accessible in order to use Flow:

Port	Description
8005	Airflow.
8006	Flow and API.
8009	Flow Control.

The following ports can optionally be made accessible:

Port	Description
22	To allow access to the Flow Server using the default ssh port.
80	To allow access to the Flow Landing page. This has the links to the client installers, web applications and documentation.

Installing a Flow Worker Node

A worker node is any server that is in addition to the main (Flow Admin) server.

In order to setup a machine as a worker node start, as usual, with a correctly spec'd and installed Ubuntu 16.x system as documented in the "Flow Install and Update Guide"

STEPS

1. ssh to the Ubuntu instance you have created. Make sure the Ubuntu instance is up to date you should have already done this is in the "Installing Ubuntu 16.04" on page 17 section.

```
sudo apt-get update && sudo apt-get upgrade
```

2. Run the following setup script:

```
sudo apt-get install python-minimal
wget https://flow-installers.editshare.co.uk/setup-flow.py
sudo python setup-flow.py
```

3. You will see the menu below.

```
*** Welcome to Flow Setup v65 ***
This is the first time you have setup this machine.
Please select installation type
1/ Basic install (all-in-one)
2/ Add proxy worker to existing setup
3/ Add ingest to existing setup
4/ Add ingest and proxy worker to existing setup
q/ Quit

You can add or change more roles after installation is complete.
If you are not sure, choose option 1
```

4. Choose option 2, 3 or 4 and press Enter
5. You will then be asked for the Flow Admin users credentials:
   - The admin server IP
   - Username
   - Password
6. The install will then proceed as normal

Once the Worker has been installed check the licence is enabled on the 'Licence' tab of Flow Control.

"Worker Nodes" and the number will appear under "Features

Configuring The Worker Node:

- Open Flow Control to the 'System' tab
- Select the 'Render Master' service
- Configure the number of 'slots' (default should be 1)
- If any configuration errors are encountered a warning will appear
    - No proxy worker services set up
    - No slots (i.e. slot count is 0 on all workers)

Worker Node Restrictions

If more worker nodes are connected than there are licensed this will 'violate' the licence and the system will be locked down until either the licence has been updated to allow the worker nodes OR the worker nodes have been removed from the system.

Chapter 5: Configuring Disks Media/Proxy Storage (Optional)

By default proxy and image files are stored in the following folder location:
`/home/editshare/flow-files`

It is possible to change this default location to an alternate disk. Follow the steps below for adding and configuring a disk:

Adding a Disk for Media and or Proxy Storage

By default proxy and image files are stored in the following folder location:
`/home/editshare/flow-files`

Before following this task ensure the disk has been added to the environment you are running. This section does not give instructions for adding the disk to the environment.

If you are running within a hosted virtual environment such as AWS, Azure or VMware or VirtualBox or KVM you must consult the help for that environment to find out how to add a disk.

Once the disk(s) is added you can follow this standard Linux procedure to add the disk to the operating system. The steps below are a summary of the following article:
https://help.ubuntu.com/community/InstallingANewHardDrive

STEPS

1. Find the disk path:

   ```
   sudo lshw -C disk
   ```

2. Make a partition and format it:

   ```
   sudo mkfs.xfs -f -b size=4096 /dev/sdXX
   ```

3. Make a mount point:

   ```
   sudo mkdir /media/flowdisk1
   ```

4. Fetch the UUID (it is important to use the UUID rather than path):

   ```
   sudo blkid
   ```

5. Add to fstab:

   ```
   vi /etc/fstab
   ```

6. Add a line similar to this:

   ```
   UUID=f41002b0-dda2-483e-91bb-3a6fb4d4fbb3 /media/flowdisk1 xfs defaults 0 2
   ```

7. Write the correct permissions:

   ```
   sudo chown -R editshare:editshare /media/flowdisk1
   ```

8. Reboot:

   ```
   sudo reboot
   ```

Setup for Using the Disk as Media

Note that there are no security considerations here. These instructions use the user name "editshare" but you should use an appropriate user name. The user must exist as a Linux user.

STEPS

1. Make a directory to use as the root of the share (optional):

```
mkdir /media/flow/media1
```

2. Append the following to the /etc/samba/smb.conf (sudo vi /etc/samba/smb.conf)

```
[FlowMedia_1]
comment = Shared Media Files
create mask = 0775
directory mask = 0775
guest ok = No
path = "/media/flow/media1"
read only = No
force group = editshare
```

3. Add a password for the user that you want to use:

```
smbpassword -a editshare
```

4. You should then be able to access the shared directory:

```
\\<machine ip>\FlowMedia_1
```

5. Copy some media into it and scan it with Flow.

Setup for Using the Disk for Flow Proxies

For these instructions we assume the new disk is mounted at: */media/flow*

STEPS

1. Make sure Flow is not running:

```
sudo systemctl stop flow-daemon
```

2. If you have existing proxy files you must copy them over:

```
sudo cp -rp /var/flow/files/ /media/flow/
```

3. Otherwise you need to create a sub-directory to hold the flow files:

```
sudo mkdir /media/flow/files
```

4. Now configure Flow to use the new location:

```
cd /usr/lib/flow/setup/
sudo ./setup_files.sh -i -l /media/flow/files
```

5. Now you can restart Flow:

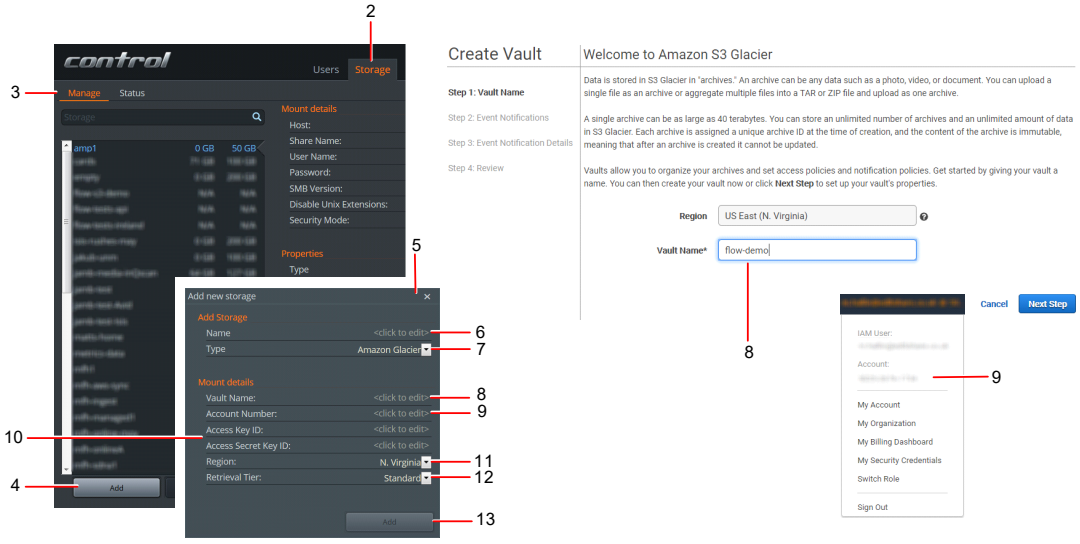
```
sudo systemctl start flow-daemon
```

Chapter 6: Preparing Storage for use with Flow

You can add third-party storage locations to Flow, provided that the storage can provide a mount point to Flow. Once configured, you can use Flow Scan to catalog and create proxies for the material in the third-party storage location. You can then browse and search the material that has been scanned. See the following topics:

Amazon Glacier

Complete the following steps to configure an Amazon Glacier storage space. The diagram shows how the fields in the Flow Control User Interface correspond to the fields in the Amazon Glacier User Interface:

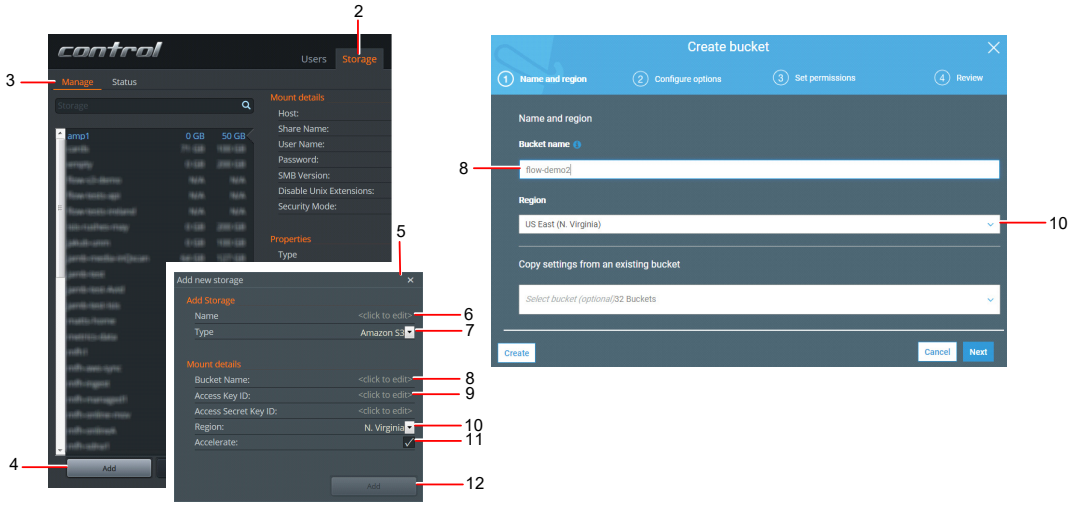


STEPS

1. Login to the Flow Control application using your credentials.
2. Click on the Storage tab.
3. Click on the Manage sub tab.
4. Click Add.
5. The Add new storage dialog is displayed.
6. Enter a name for the storage space.
7. Select Amazon Glacier from the storage type drop down list.
8. Enter the Vault Name as it appears in the vault interface (see above image).
9. Enter your account number as it appears in the vault interface (see above image).
10. Enter the Access Key ID and Access Secret Key ID as they appear in the vault interface (see above image). For more information, see Understanding and Getting Your Security Credentials.
11. Select the Region from the drop down list.
12. Select the type of Retrieval Tier that you want to use. This sets the download speed and affects the cost. For more information, see Amazon Glacier.
13. Click Add.

Amazon S3

Complete the following steps to configure an Amazon S3 storage space. The diagram shows how the fields in the Flow Control User Interface correspond to the fields in the Amazon S3 User Interface:



STEPS

1. Login to the Flow Control application using your credentials.
2. Click on the Storage tab.
3. Click on the Manage sub tab.
4. Click Add.
5. The Add new storage dialog is displayed.
6. Enter a name for the storage space.
7. Select Amazon S3 from the storage type drop down list.
8. Enter the Bucket Name as it appears in the bucket interface (see above image).
9. Enter the Access Key ID and Access Secret Key ID as they appear in the vault interface (see above image). For more information, see Understanding and Getting Your Security Credentials.
10. Select the Region from the drop down list.
11. If you want Flow to use accelerated transfers, click the box to select it. For more information, see Amazon S3 Transfer Acceleration.

    Selecting Flow to use accelerated transfers will affect the cost.

12. Click Create on the Amazon S3 User Interface, or click Add on the Flow Control User Interface.

    If there are two Amazon S3 spaces that have the same setting for Region it is possible to copy between the two spaces using the Automation Copy task. However, if the region settings are different, attempts to copy between the two spaces will fail.

Archiware

Installing a client on the Flow server

To obtain Archiware support you must install a client on the Flow server. Complete the following steps to install an Archiware client on your Flow server:

STEPS

1. Visit the Archiware Downloads page.
2. Click New Install for Linux - deb:

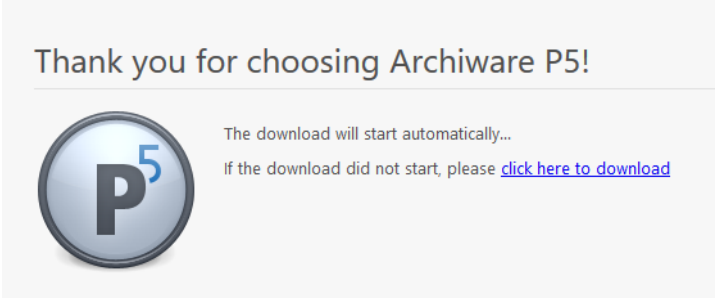
3. Copy the downloaded file onto the Flow server.
4. Install the client by running the following command:

```
sudo dpkg -i awpst561.deb
```

You can also install the client by using the following procedure:

STEPS

1. Follow steps 1 and 2 above.
2. Copy the download link by right clicking on 'click here to download' and copy the link location:



3. Download the file direct to the Flow server:

```
wget [link to deb file]
```

for example:

```
wget http://presstore_downloads.s3.amazonaws.com/awpst561.deb
```

4. Install the file:

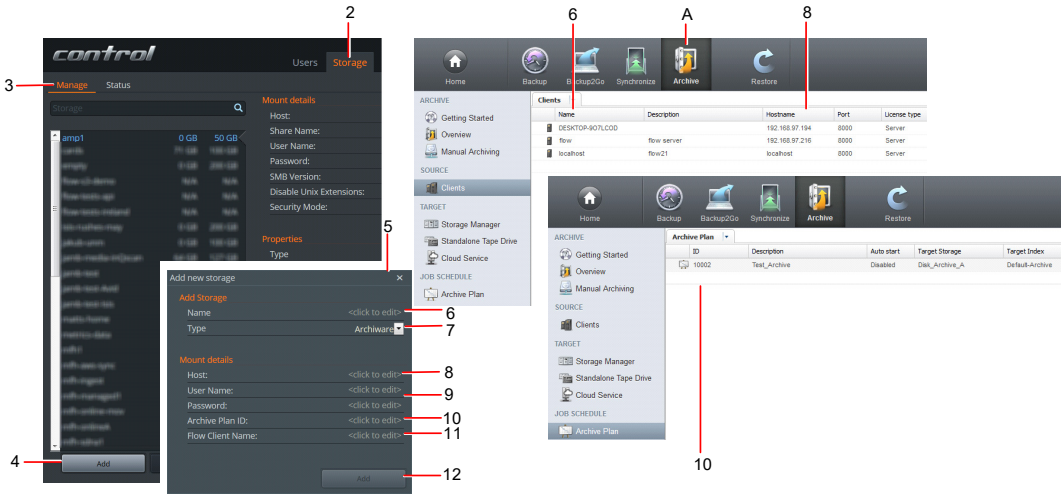
```
sudo dpkg -i [path to deb file]
```

for example

```
sudo dpkg -i awpst561.deb
```

Configuring Archiware

Complete the following steps to configure an Archiware storage space. The diagram shows how the fields in the Flow Control User Interface correspond to the fields in the Archiware User Interface. Flow supports Archiware P5, the Archive module of the P5 suite, as indicated by the Archive icon labelled A.



STEPS

1. Login to the Flow Control application using your credentials.
2. Click on the Storage tab.
3. Click on the Manage sub tab.
4. Click Add.
5. The Add new storage dialog is displayed.
6. Enter a name for the storage space.
7. Select Archiware from the storage type drop down list.
8. Enter the Host name as it appears in the Archiware interface (see above image). This is the host name or IP address of the Archiware server.
9. Enter the User Name and password as they appear in the Archiware interface (see above image). These are the credentials required to access the Archiware server.
10. Enter the Archive Plan ID as it appears in the Archiware interface (see above image). This is the number from the ID column for the Archive plan; in the above example the value is 10002.
11. Enter the Flow Client Name as it appears in the Archiware interface (see above image). The Flow Client Name is the value in the Name column in the Clients view in the Archive software. Flow requires that the Flow server running the Flow Transfer service has the Archiware client software installed and that the machine is registered with the Archiware server as a client.
12. Click Add.

Avid ISIS/NEXIS

If you want to use Avid ISIS or Avid NEXIS storage you must install a new kernel and supply the Avid Linux drivers.

These are something like these examples below:

- `AvidNEXISClient_el7.centos.x86_64_7.6.0_5.bin`
- `AvidNEXISClient_el7.centos.x86_64_7.11.0_8.bin`

Installing a new kernel on the Flow Server

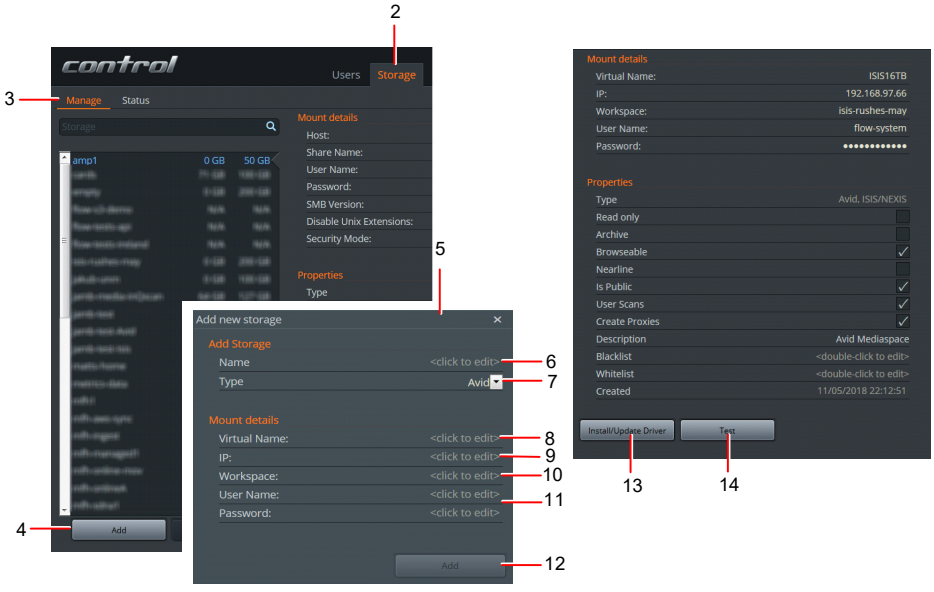
You need to install a special kernel that supports Avid storage. Complete the following steps to do this:

STEPS

1. ssh to the flow server.
2. Run `sudo python setup-flow.py`
3. Choose 6/ Update Kernel for ISIS.
4. Choose the latest kernel from the list. The kernel will be installed and the system will reboot.

Adding Avid Storage within Flow

Complete the following steps to configure an Avid storage space:



STEPS

1. Login to the Flow Control application using your credentials.
2. Click on the Storage tab.
3. Click on the Manage sub tab.

4. Click Add.
5. The Add new storage dialog is displayed.
6. Enter a name for the storage space.
7. Select Avid from the storage type drop down list.
8. Enter the virtual name. This is the host name of the Avid server.
9. Enter the IP address of the Avid server.
10. Enter the name of the workspace.
11. Enter the User Name and password. These are the credentials required to access the Avid server.
12. Click Add.
13. Click Install/Update Driver and browse to the Avid driver file and select it. Note that at the moment there is no feedback but you should see a message that the operation succeeded after 30 seconds or so.

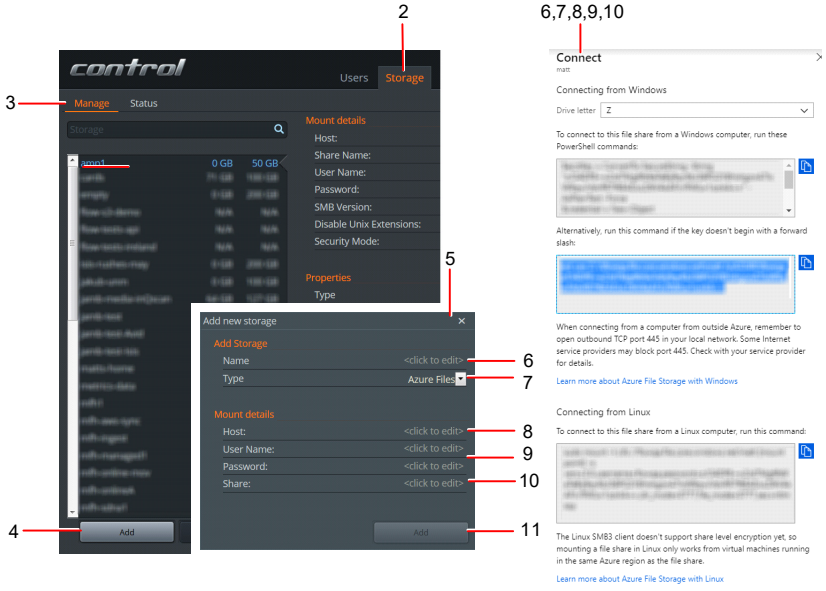
You only need to upload the drivers once.

14. Click on the Test button. A success message should be displayed.
15. You can now scan the new space and add new ones as needed.

Azure Files

Complete the following steps to configure an Azure Files storage space. The diagrams show how the fields in the Flow Control User Interface correspond to the fields in the Azure Files User Interface.

In Azure Files you add Files and give them access to a Storage Account.



STEPS

1. Login to the Flow Control application using your credentials.
2. Click on the Storage tab.
3. Click on the Manage sub tab.
4. Click Add.
5. The Add new storage dialog is displayed.
6. Add a name for the storage space.
7. Select Azure Files from the storage type drop down list.
8. Enter the Host name as it appears in the Azure Files interface (see above image).
9. Enter the User Name and Password as they appear in the Azure Files interface (see above image).
10. Enter the name of the Share as it appears in the Azure Files interface (see above image).
11. Click Add.

    The connection details required can be fetched from the connection details in Azure.

    For example you may have a connection string like this:

    ```
    net use Z: \\flow.file.core.windows.net\media /u:AZURE\flow
    z/O5DP9+w2Gd7Mg7fb9aTeCij9qvKbJ41PO2Y8HxhgonA7IxW9qwJVdvRR7f6E
    ADuLD6VAkAFJr/RZLw1lsrkA==
    ```

    You can extract the following information from the string:

    - Host: `flow.file.core.windows.net`
    - User Name: `flow`

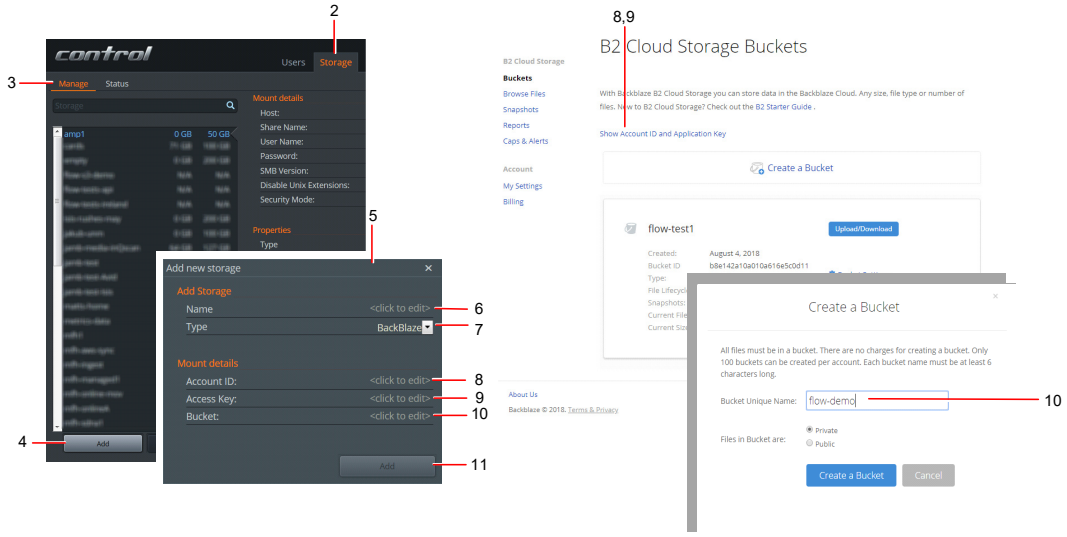
- Password:

  z/O5DP9+w2Gd7Mg7fb9aTeCij9qvKbJ41PO2Y8HxhgonA7IxW9qwJVdvRR7f6EADuLD6VAkAFJr/RZLw1lsrkA==

- Share: media

BackBlaze

Complete the following steps to configure a BackBlaze storage space. The diagrams show how the fields in the Flow Control User Interface correspond to the fields in the BackBlaze User Interface.



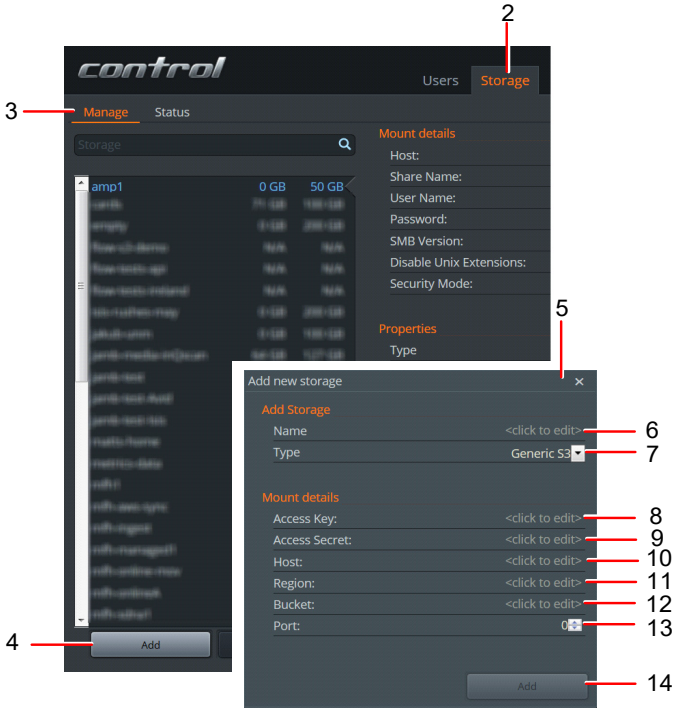
STEPS

1. Login to the Flow Control application using your credentials.
2. Click on the Storage tab.
3. Click on the Manage sub tab.
4. Click Add.
5. The Add new storage dialog is displayed.
6. Enter a name for the storage space.
7. Select BackBlaze from the storage type drop down list.
8. In BackBlaze, click on the Show Account ID and Access Key link from the Buckets window to get the information that is needed by Flow. Enter the Account ID as it appears in the bucket interface (see above image).
9. Enter the Access Key as it appears in the bucket interface (see above image).
10. Enter the name of the Bucket as it appears in the bucket interface (see above image).
11. Click Add.

Generic S3

You can use Generic S3 storage to connect to S3 compatible storage systems.

Wasabi and Cloudian have been tested with Flow. Visit https://wasabi.com and see the topic "Wasabi" on page 38 for information on Wasabi, and visit https://cloudian.com for more information about Cloudian.

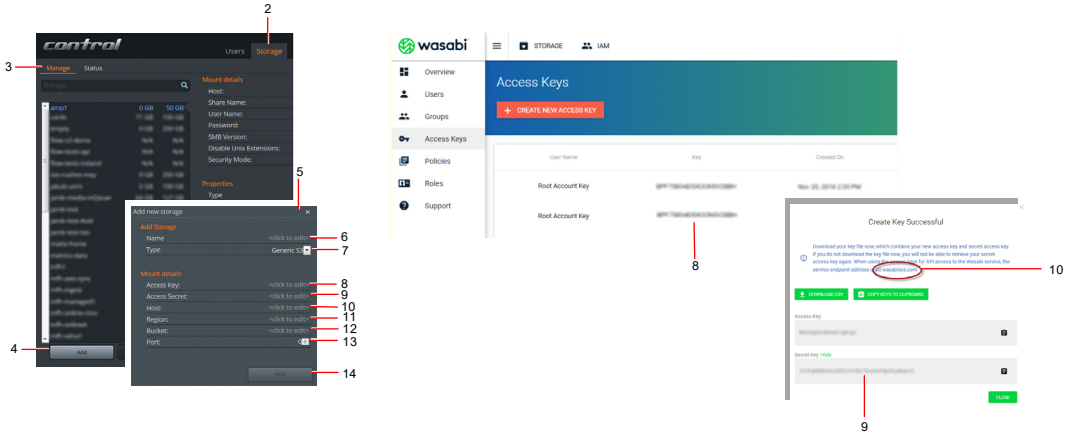


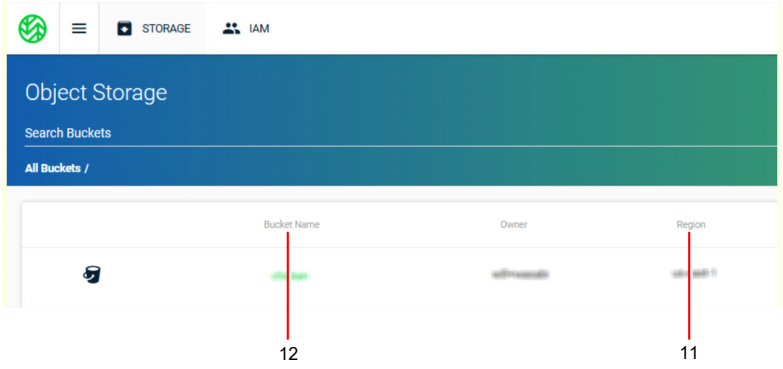
STEPS

1. Login to the Flow Control application using your credentials.
2. Click on the Storage tab.
3. Click on the Manage sub tab.
4. Click Add.
5. The Add new storage dialog is displayed.
6. Enter a name for the new storage space.
7. Select Generic S3 from the storage type drop down list.
8. Enter the Access Key: This information is required from the third party system to connect.
9. Enter the Access Secret: This information is required from the third party system to connect.
10. Enter the Host: This is the Host Name or IP address of the system to connect to.
11. Enter the Region: This information is required from the third party system to connect.
12. Enter the Bucket: Name of the bucket to use.
13. Enter the Port: If a specific port is required to connect enter it here, otherwise leave as 0.
14. Click Add.

Wasabi

Complete the following steps to configure a Wasabi storage space, a generic third party storage type, which you select by using Generic S3 from the Storage Type drop down list. The diagrams show how the fields in the Flow Control User Interface correspond to the fields in the Wasabi Interface.





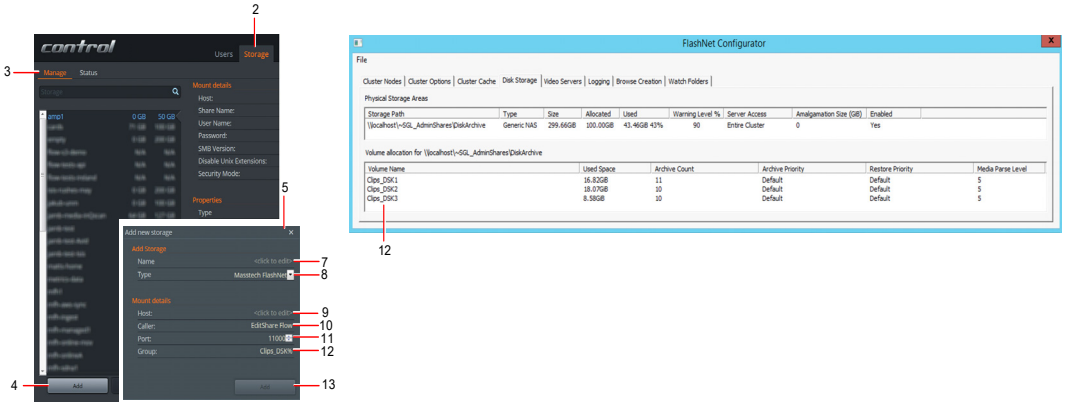
STEPS

1. Login to the Flow Control application using your credentials.
2. Click on the Storage tab.
3. Click on the Manage sub tab.
4. Click Add.
5. The Add new storage dialog is displayed.
6. Enter a name for the storage space.
7. Select Generic S3 from the Storage Type drop down list.
8. Enter your Access Key as it appears in the Wasabi interface (see above image).
9. Enter your Access Secret; this can be found when clicking 'Create New Access Key' in the Wasabi User Interface. This field is labelled Secret Key in the Wasabi User Interface.

10. Enter your Host name; this can be found when clicking 'Create New Access Key' in the Wasabi User Interface.
11. Enter the name of the Region as it appears in the Wasabi interface (see above image).
12. Enter the name of the Bucket as it appears in the Wasabi interface (see above image).
13. Enter the Port number as it appears in the Wasabi interface (see above image).
14. Click Add.

Masstech FlashNet Deep Storage

Complete the following steps to configure a Masstech FlashNet storage space. The diagram shows how the fields in the Flow Control User Interface correspond to the fields in the Masstech FlashNet User Interface.



STEPS

1. Install and configure the Masstech FlashNet server according to the manufacturer's instructions.
2. Run the system to ascertain the group name, for example, if the given volume names are `Clips_DSK1, Clips_DSK2, Clips_DSK3`, the group name is `Clips_DSK%`.
3. Click the Storage tab.
4. Click the Manage sub tab.
5. Click Add.
6. The Add new storage dialog is displayed.
7. Enter a name for the storage space.
8. Select Masstech FlashNet from the Storage Type drop down list.
9. Enter the Host. This is the IP Address of the FlashNet server.
10. Enter the Caller. The default Caller Name is `EditShare Flow`, but confirm this with the administrator for your Masstech FlashNet system.
11. Enter the Port number. This is the network port for the FlashNet API. The default value is 11000.
12. Enter the Group as it appears in the Masstech FlashNet interface (see above image). This is the volume group on the Flashnet system where archives created from Flow are to be stored. This is specific to your Flashnet system configuration, for example you can store to three disk volumes named `Clips_DSK1, Clips_DSK2, Clips_DSK3`, and the group name is `Clips_DSK%`. Consult the administrator of your Flashnet system for the correct values.
13. Click Add.

Features and Limitations

Masstech FlashNet has the following features and limitations:

- Files can be copied to and from Masstech FlashNet spaces using Flow Automation or the Flow API.
- Masstech FlashNet spaces cannot be scanned, but files that have been copied to the spaces do display in Flow.
- File ingests cannot be made directly into Masstech FlashNet spaces.
- Flow does not support partial file restoration from Masstech FlashNet. Only full file restore is available.

Flashnet Storage Login

Flashnet requires a reverse SMB mount to operate; therefore you must provide the correct authorised user credentials to the storage system (EditShare or 3rd party), so Flashnet can access the storage. It is recommended that the SMB login is the Flashnet default name `sglsvc` and the password `Flashnet1`. In the case of EditShare storage this should be setup for the required spaces using the EditShare storage manager, in the case of 3rd party storage it's user control manager should be used to add the default Flashnet user

Using Flow Automation

Flow can transfer files to and from Masstech FlashNet using Flow Automation's Copy Task. The Storage Spaces to be read or written to by Masstech FlashNet must be made Public or assigned to the user account that will be running Flow Automation jobs.

See the *Flow Automation User's Guide* for further information.

StorageDNA

Installing a client on the Flow server

Complete the following steps on the StorageDNA Linux server:

STEPS

1. The StorageDNA Linux server should be running Centos 6 or Centos 7.
2. Check the python version; run:

   ```
   python -V
   ```

   This should be v2.6.6 or a later version.
3. Local login as root so all this is using root user on the StorageDNA machine.
4. Install pip and then flask:

   ```
   wget https://bootstrap.pypa.io/get-pip.py
   python get-pip.py
   pip install --upgrade pip
   pip install flask
   ```

5. Download and setup the Flow script:

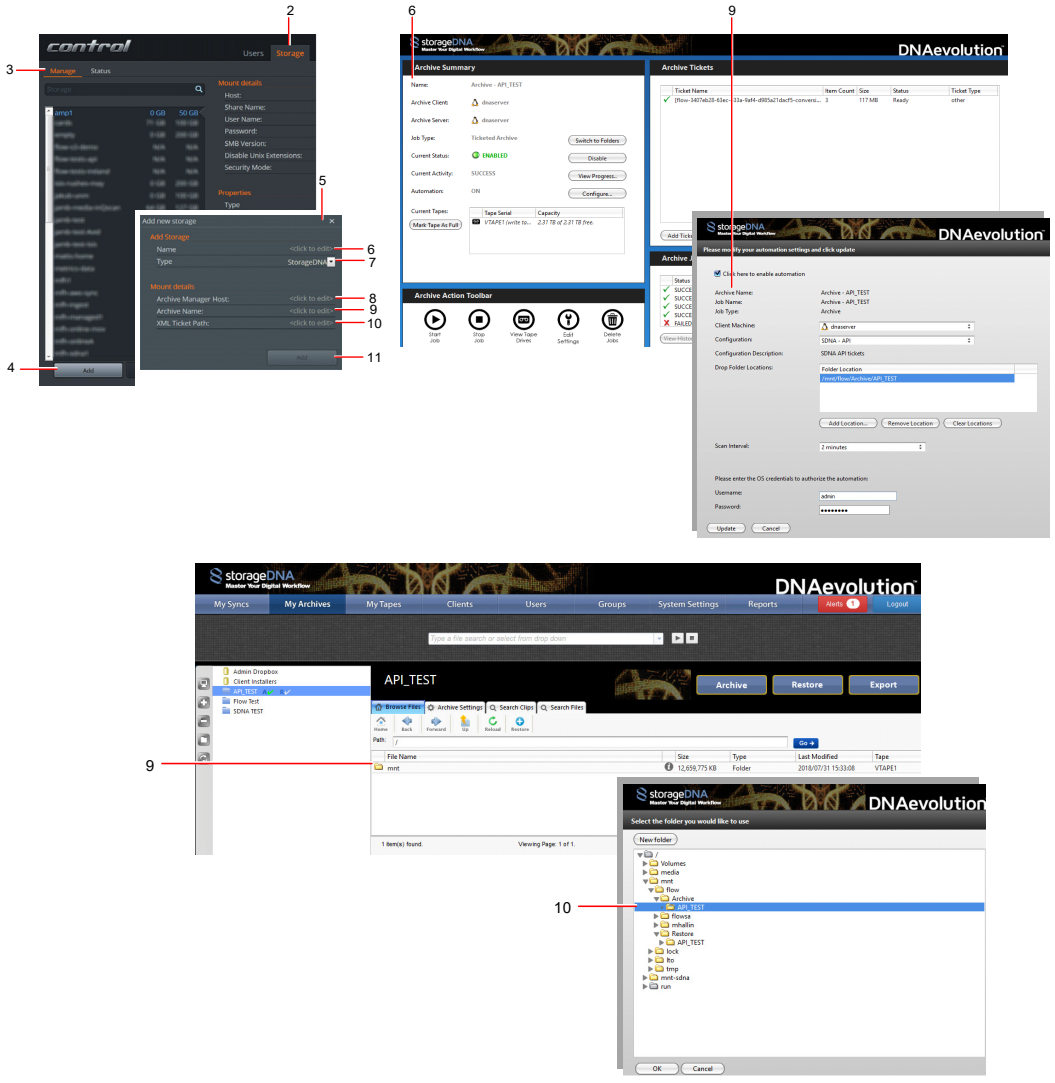
   ```
   mkdir /root/flow
   cd /root/flow
   wget http://FLOW SERVER IP ADDRESS/clients/flow-sdna-server.py
   chmod +x flow-sdna-server.py
   ```

6. Start the flow service:

   ```
   ./flow-sdna-server.py
   ```

Adding StorageDNA within Flow

The diagrams show how the fields in the Flow Control User Interface correspond to the fields in the StorageDNA User Interface.



STEPS

1. Login to the Flow Control application using your credentials.
2. Click the Storage tab.
3. Click the Manage sub tab.
4. Click Add.
5. The Add new storage dialog is displayed.
6. Enter a name for the storage space.
7. Select StorageDNA from the Type drop down box.
8. In the Archive Manager Host section, enter the IP address of the StorageDNA system running the flow script that was set up above in the Archive Manager Host section.
9. In the Archive Name section, enter the name of the StorageDNA archive that you want Flow to use.
10. Enter the XML Ticket Path; this is the Drop Folder Location setup within StorageDNA. It is the

path where XML tickets will be saved.

This path is configured in the Archive or Restore configuration pages in StorageDNA. The path required is the path to the level where the Archive and Restore folders are created. For example, when archiving, Flow will save the XML ticket which starts the job into the following folder:

```
<XML Ticket Path>/Archive/<Archive Name>
```

and for restore:

```
<XML Ticket Path>/Restore/<Archive Name>
```

These directories are created by Flow when you test the storage space in Flow Control.

You can then configure StorageDNA to use them.

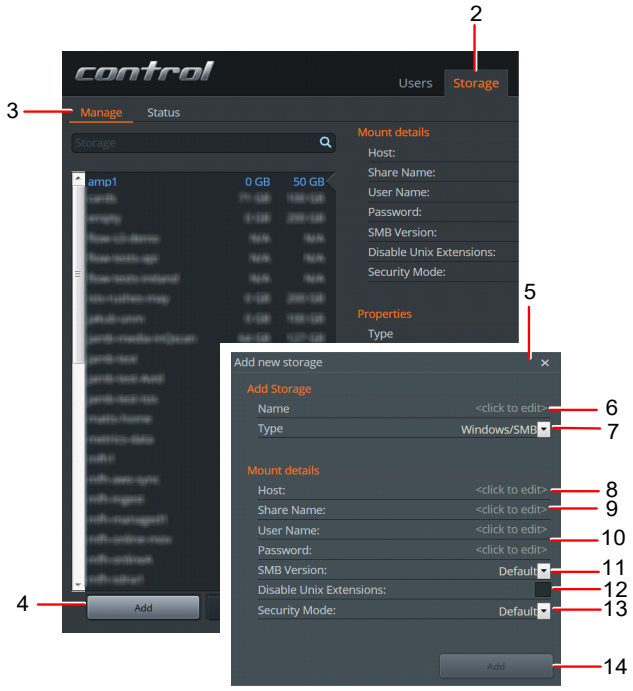
11. Click Add.
12. After adding the storage space, click the test button.

    This will verify the connection to Flow service on the StorageDNA machine and also create the directories where the archive and restore tickets (xml files) will be stored.

    When you have successfully tested the storage space in Flow you can setup the archive ticket paths in StorageDNA.

Windows/SMB

To connect to Windows/SMB shares complete the following steps:



STEPS

1. Login to the Flow Control application using your credentials.
2. Click on the Storage tab.
3. Click on the Manage sub tab.
4. Click Add.
5. The Add new storage dialog is displayed.
6. Enter a name for the storage space.
7. Select Windows/SMB from the storage type drop down list.
8. Enter the Host: The IP address of the system to connect to.
9. Enter the Share Name: The name of the share to connect to.
10. Enter the User Name and Password.
11. SMB Version: If you require a specific version of SMB you can set it here.
12. Disable Unix Extensions: Allows disabling unix extensions (see notes below).

13. Security Mode: If you require a specific security mode you can set it here (see notes below).

• Windows 10 Shares - setting SMB version to 3.0 will probably be required to make it mount.

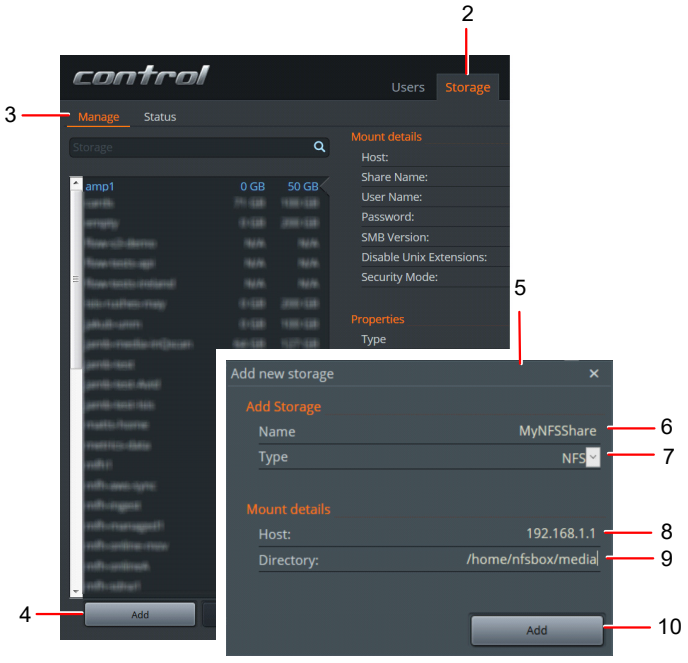
- *macOS Shares - may need to specify 'disable unix extensions' to allow mounting.*
- *When connecting to QNAP (https://www.qnap.com) you must set the SMB version to 2.0 to make it mount.*
- *When connecting to Synology (https://www.synology.com) you must set the security mode to "ntlm" to make it mount..*

14. Click Add.

NFS

On the NFS server, make sure that the NFS share has been set up and that access is allowed for read and write access as appropriate.

To connect Flow to a NFS share complete the following steps:



STEPS

1. Login to the Flow Control application using your credentials.
2. Click on the Storage tab.
3. Click on the Manage sub tab.
4. Click Add.
5. The Add new storage dialog is displayed.
6. Add a name for the storage space.
7. Select NFS from the storage type drop down list.
8. Enter the Host - The IP address of the server with the NFS share.
9. Enter the Directory - The directory being shared from the server.
10. Click Add.

There are some known issues with mounting of NFS shares being slow due to authentication. If you experience this, the advice at Fixing slow nfs mount problem may be useful. Consult with your System Administrator before making any modifications to your systems.

Chapter 7: Configuring Flow to work with Edit-Share Storage (Optional)

Important: This new version of Flow requires a separate server installation.

IT DOES NOT install on the EditShare storage system**.**

It is now possible to use EditShare storage with Flow in a limited way. This allows users with EditShare storage to be able to direct Flow to the EditShare storage and have it mounted as SMB storage.

This functionality is limited but does allow for existing Flow 3.3.x users with EditShare storage to test out this new version of Flow in a sandboxed environment, that will not affect the day to day running of Flow 3.3.x with EditShare storage

Storage Licensing

EditShare integration mode can only be enabled if 'EditShare' storage is Licensed (not licensed by default for current trials). Please contact the Flow Team flowinfo@editshare.co.uk with regards to enabling this licence functionality.

If 'EditShare' storage is not licensed then the option to enable 'EditShare Integration' will not be available within Flow Control.

Configuring EditShare Connectivity in Flow Control

1. Configure and install Flow on an Ubuntu 16.x system as documented in the “Flow Install and Update Guide”.

2. Open Flow Control by clicking the Login button under Control on the Flow Landing page: http://SERVER-IP-ADDRESS.

- Username: admin
- Password: changeme0479

3. Open the Licence tab.

4. Check “EditShare” storage is listed, if not available see “Storage Licensing” above.

5. Open the System tab.

6. Select the ‘Admin’ Service.

7. Enable ‘EditShare Integration.’

8. Fill in the EditShare system details.

9. IP address of server.

10. Username and Password (e.g. username: editshare, password changeme0479).

11. Restart Flow services.

12. You will need to sign back in to Control. Now that it is integrated with EditShare you log in with the 'EditShare' admin credentials.

- Username: admin
- Password: changeme0479

Using EditShare Storage With Flow

After signing into Flow Control you should have.

- The Users tab within Control listing all the EditShare users
- The Storage tab within Control showing all the EditShare media spaces that have been added automatically

Please Note: When integrated with EditShare the Add/Remove user and change password options are no longer available. User management is done in EditShare Manager. All Flow clients and services should continue to work as you'd expect.

Chapter 8: Data Migration

From Flow 2019.2 it is now possible to migrate data from an existing Flow Server installation to a replacement server.

Instructions for doing this can be found below:

Install and configure the Flow Server software on your new system as documented in the "Installing the Flow Server" in this Guide. The new system can be licensed either before or after the data migration.

* Please make sure the new system is connected to the same network as the existing Flow Server.

Data that is Migrated

All users, asset metadata, proxies and thumbnails

Migrating The Server Data

On the new Flow Server installation, ie, the Server that the data is to be migrated to.

STEPS

1. Stop Flow services, run:

   ```
   sudo systemctl stop flow-daemon
   ```

2. Then Run:

   ```
   sudo flow-migrate -h [IP ADDRESS OF OLD/EXISTING SERVER]
   ```

3. Enter the password and press Enter:
4. The data migration will begin from the old server to the new:
   - Depending on the number of proxy files to be transferred this could take several hours
5. Once complete, start Flow services, run:

   ```
   sudo systemctl start flow-daemon
   ```

Checking The Data Migration

Once the you have completed the above instructions and the Flow service is running, you can check the migrated data using the following method:

STEPS

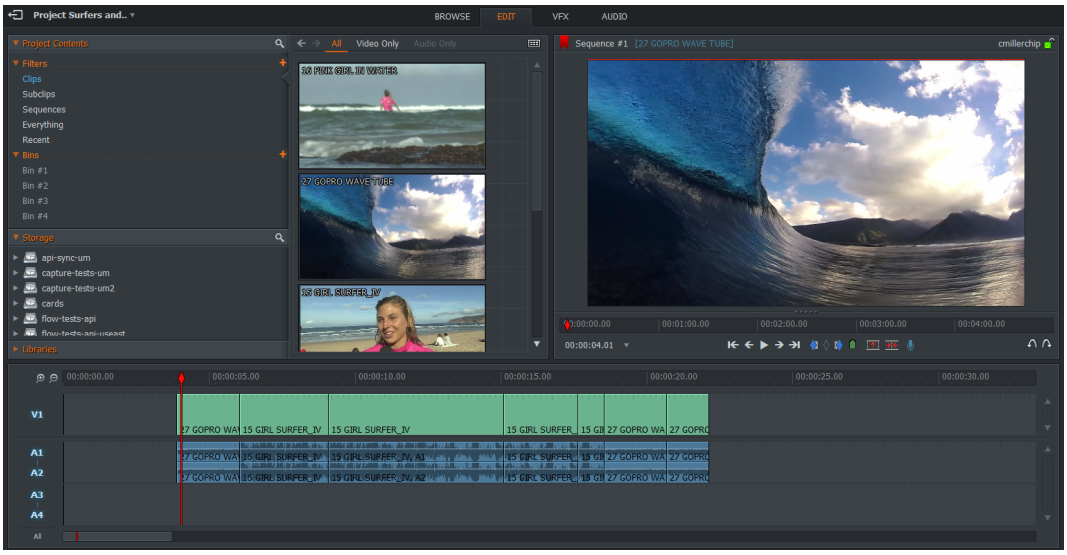
1. Start a Flow client (Story, AirFlow) and sign in.
2. Verify the same storage spaces, metadata, proxies etc are accessible
3. Verify all user credentials were carried across

The system should now work just like the original system.

If not already licensed, please contact the Flow Team flowinfo@editshare.co.uk with regards to migrating the licence.

Chapter 9: Installing Flow Story

Flow Story is a remote editing application that allows you to edit and upload local content or edit content that exists on the storage either locally or remotely. Sequences can be published from Story to be viewable in AirFlow and opened in Avid Media Composer, Adobe Premiere, Apple FCPX, and Lightworks.



Installing on Windows

To install Flow Story on Windows, do the following:

STEPS

1. To open the Flow landing page, do either of the following:
   - Type the IP address of the server you installed into the address bar.
   - Open the Flow Landing Page from the installer by clicking the Open Flow button.
2. Click the Windows download button under the Story heading.
3. Save the file and run the installation package.
4. Follow the on screen prompts.
5. Click Finish to complete the installation.

Installing on macOS

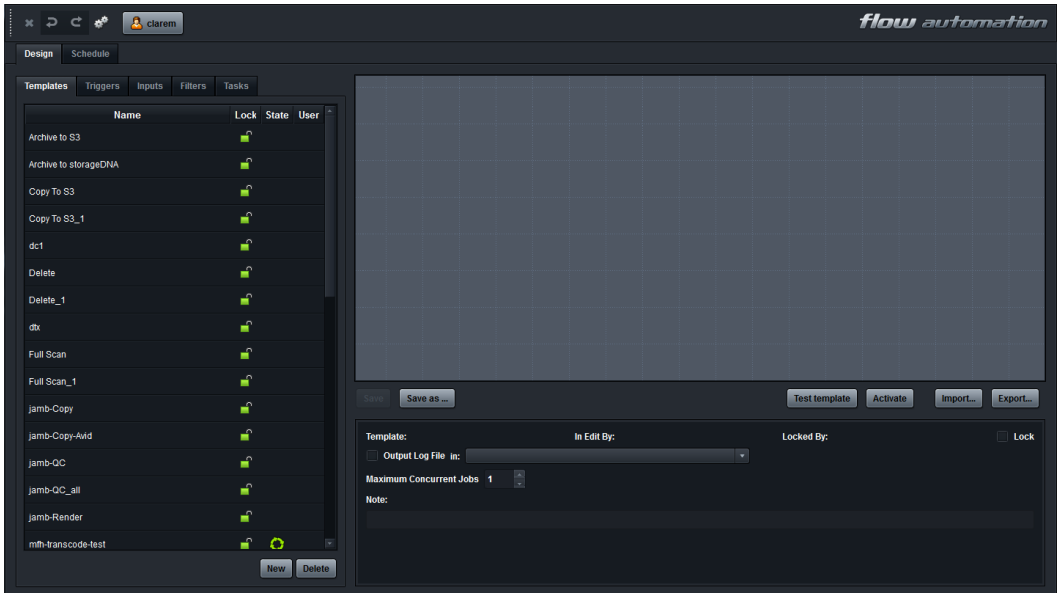
To install Flow Story on macOS do the following:

STEPS

1. Open a Web Browser.
2. To open the Flow landing page, do either of the following:
   - Type the IP address of the server you installed into the address bar.
   - Open the Flow Landing Page from the installer by clicking the Open Flow button.
3. Click the Mac download button.
4. The DMG file opens to display a file called `Flow Story.app` and the Applications folder.
5. Drag and drop the `Flow Story.app` file over the Applications folder to install it.
6. Navigate to the Applications folder and double-click `Flow Story.app` to start Flow Story.

Chapter 10: Installing Flow Automation

Flow Automation is an automated workflow tool that performs simple or complex repetitive tasks. The process starts with a template which defines the workflow to be automated, this template then creates jobs within Automation when workflows are activated.



Installing on Windows

To install Flow Automation on Windows, do the following:

STEPS

1. Open a Web Browser.
2. To open the Flow landing page, do either of the following:
   - Type the IP address of the server you installed into the address bar.
   - Open the Flow Landing Page from the installer by clicking the Open Flow button.
3. Click the Windows download button.
4. Save the file and run the installation package.
5. Follow the on screen prompts.
6. Click Finish to complete the installation.

Installing on macOS

To install Flow Automation on macOS do the following:

STEPS

1. Open a Web Browser.
2. To open the Flow landing page, do either of the following:
   - Type the IP address of the server you installed into the address bar.
   - Open the Flow Landing Page from the installer by clicking the Open Flow button.
3. Double click the Mac download button.
4. The DMG file opens to display a file called `Flow Automation.app` and the Applications folder.
5. Drag and drop the `Flow Automation.app` file over the Applications folder to install it.
6. Navigate to the Applications folder and double-click `Flow Automation.app` to start Flow Story.

Chapter 11: Updating the Flow Server

OS Updates

- It is ok to apply updates to newer Ubuntu 16.x components (apt-get update/upgrade). We test with the latest but it is always possible that a latest component may stop Flow working.
- DO NOT under any circumstances upgrade to Ubuntu 18.

Flow Updates

- ssh to the Flow machine(s) and run “sudo python setup-flow.py” and choose option: “3/ Update Flow”

Avid Storage

If you want to use Avid ISIS or Avid NEXIS storage you must install a new kernel and supply the Avid Linux drivers.

These are something like the examples below:

- AvidNEXISClient_el7.centos.x86_64_7.6.0_5.bin
- AvidNEXISClient_el7.centos.x86_64_7.11.0_8.bin

Now follow these steps:

STEPS

1. Install a kernel that supports Avid storage:
2. ssh to the flow server(s) and run

   ```
   sudo python setup-flow.py
   ```

3. Choose 6/ Update Kernel for ISIS.
4. Choose the option that matches your kernel by the first two numbers.
5. If your current kernel starts with 4.4 then choose the 4.4 option.
6. Reboot after the installation process completes.
7. Login to Flow Control and add a new Avid storage space, enter the hostname, IP address, workspace and user details and click Save.
8. Click on Install/Update Driver and browse to the Avid driver file and select it. Note that at the moment there is no feedback but you should see a message that the operation succeeded after about 30 seconds.
9. Note - you only need to upload the drivers once.
10. Now you should be able to click on the Test button and it should report success.
11. You can now scan the new space and add new ones as needed.

StorageDNA

Perform the following steps on the StorageDNA Linux server:

STEPS

1. Verify that the storageDNA system is running Centos 6 by running:

   ```
   lsb_release -d
   ```

   The tested system was running CentOS release 6.7 (Final).

2. To check the python version run:

   ```
   python -V
   ```

   This should be v2.6.6 or a later v2.x.x is also ok.

3. Local login is as root so all this is using root user on the storageDNA machine.

4. Install pip and then flask:

   ```
   wget https://bootstrap.pypa.io/get-pip.py
   python get-pip.py
   pip install --upgrade pip
   pip install flask
   ```

5. Make firewall exception:

   ```
   iptables -I INPUT -p tcp -m tcp --dport 12274 -j
   ACCEPT
   service iptables save
   iptables -L
   ```

6. Download and setup the Flow script:

   ```
   mkdir /root/flow
   cd /root/flow
   wget
   http://flow-installers.editshare.co.uk/sdna/flow-s
   dna-server.py
   ```

7. Start the flow service:

   ```
   ./flow-sdna-server.py
   ```

Chapter 12: Installing Additional Applications

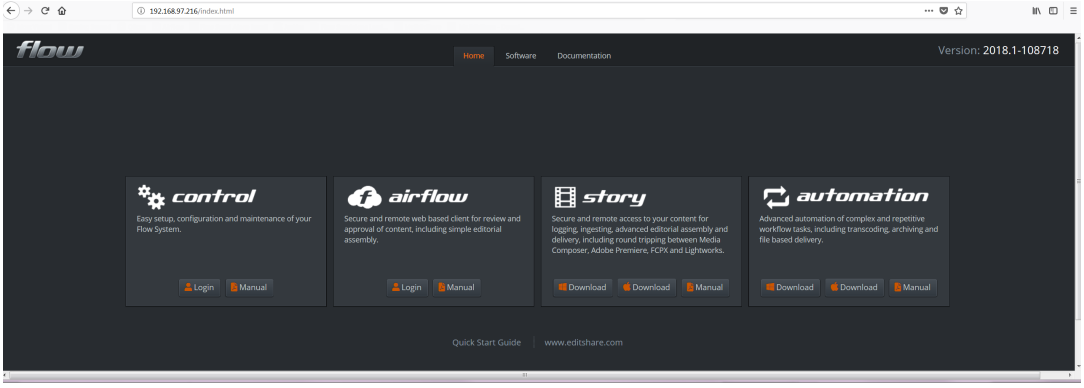
Send To Flow for Avid Media Composer

The Send To Flow application allows the sending of compatible sequences from Avid Media Composer to Flow. The Send To Flow application is only required if you are running Avid Media Composer on a Mac. It is not needed for Windows.

macOS

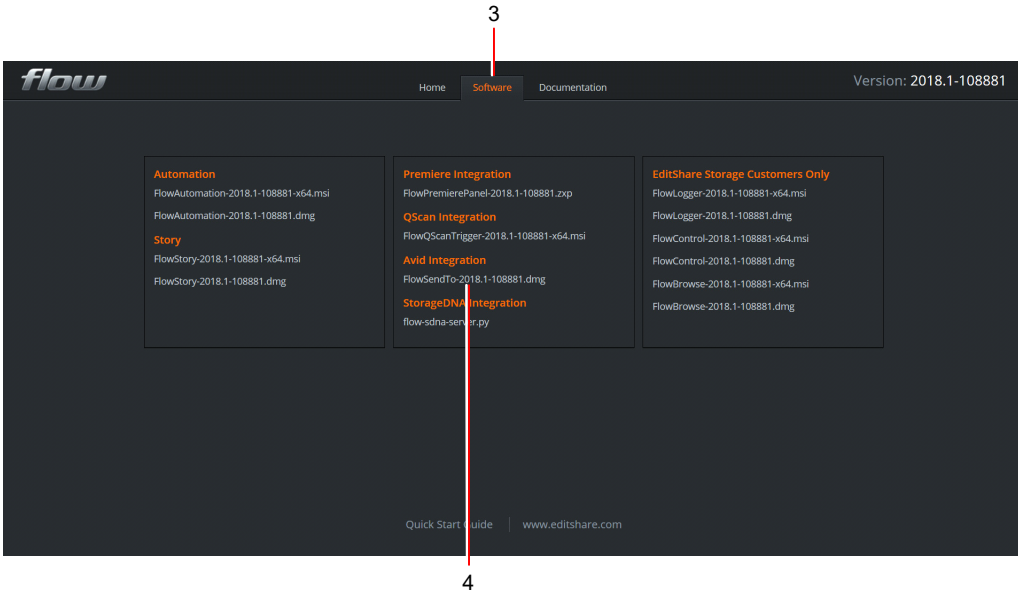
STEPS

1. Open a Web Browser.
2. To open the Flow landing page, do either of the following:
   - Type the IP address of the server you installed into the address bar. For example 192.168.97.216



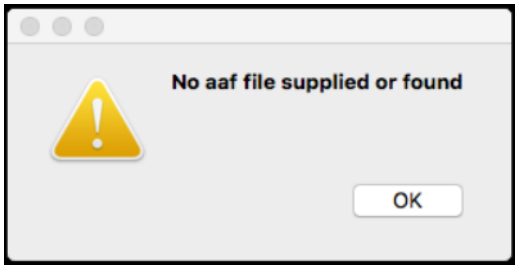
   - Open the Flow Landing Page from the installer by clicking the Open Flow button.

3. Click the Software tab.



4. Click the Send To Flow application name to run it. The name of the application will change depending on the revision number of the current build. For example, `FlowSendTo-2019.x-xxxxxx.dmg` where `x` is the number of the build.

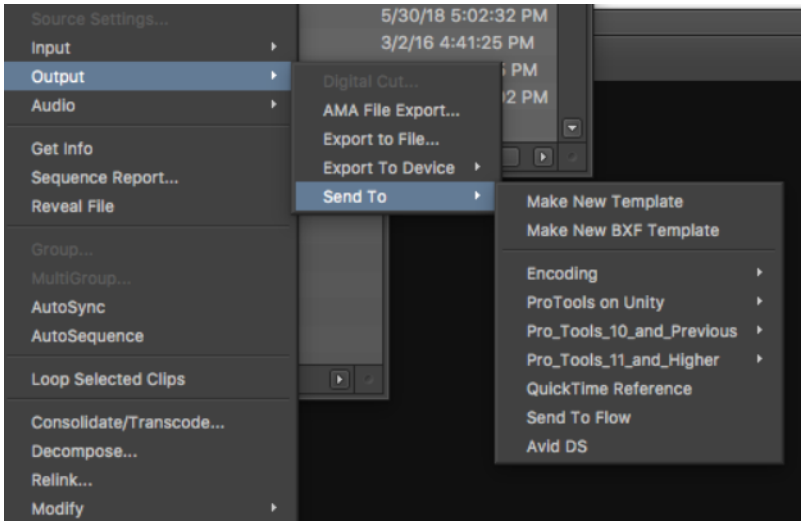
5. The following dialog is displayed:



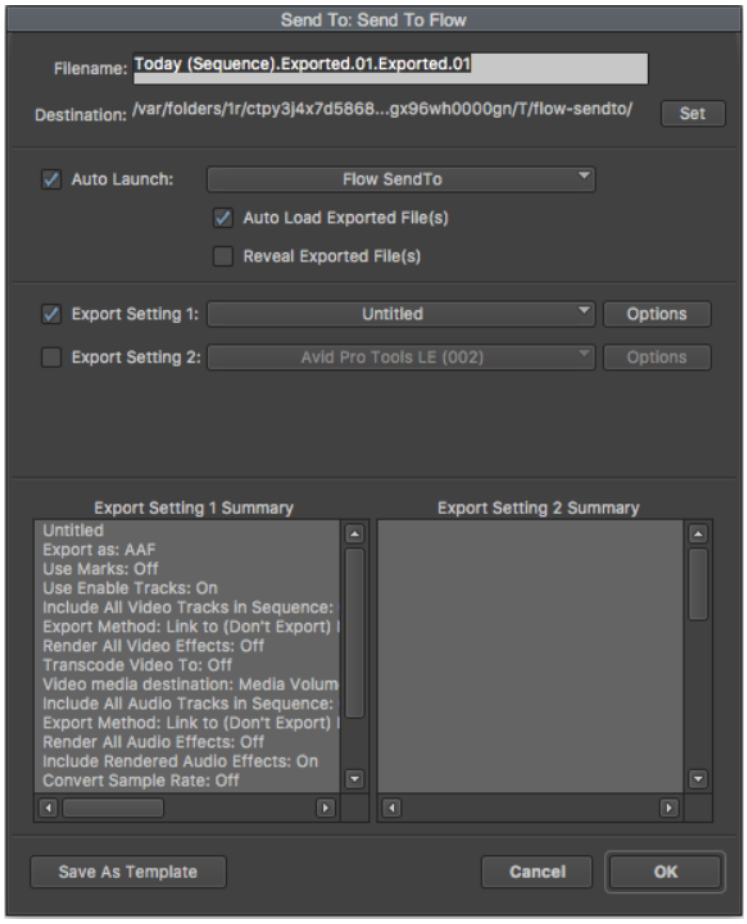
6. Click OK to close the dialog.

7. Start or restart Avid Media Composer.

8. Right-click on a sequence and choose Output >Send To >Send To Flow. See the example image below:

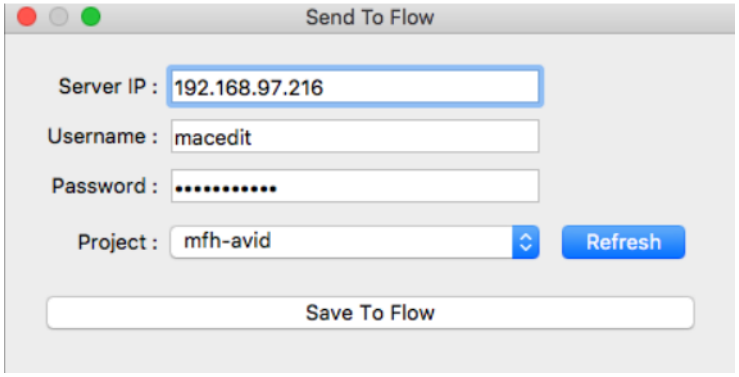


9. Click the Options button and define the export as AAF using the 'Link to' setting for both video and audio. The 'send to' will fail if AAF is not defined here.

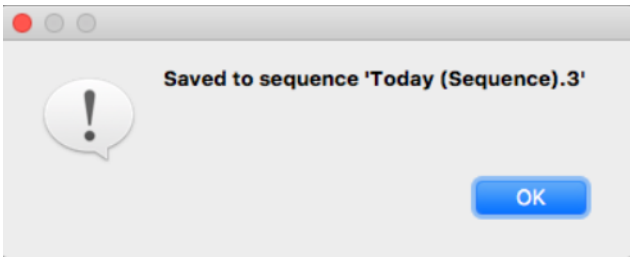


10. You will then see a dialog asking for your Flow server IP address and credentials. Fill these in and press Refresh. Your projects are displayed. You can then select the project you want to export the sequence to. See the example image below:

11.

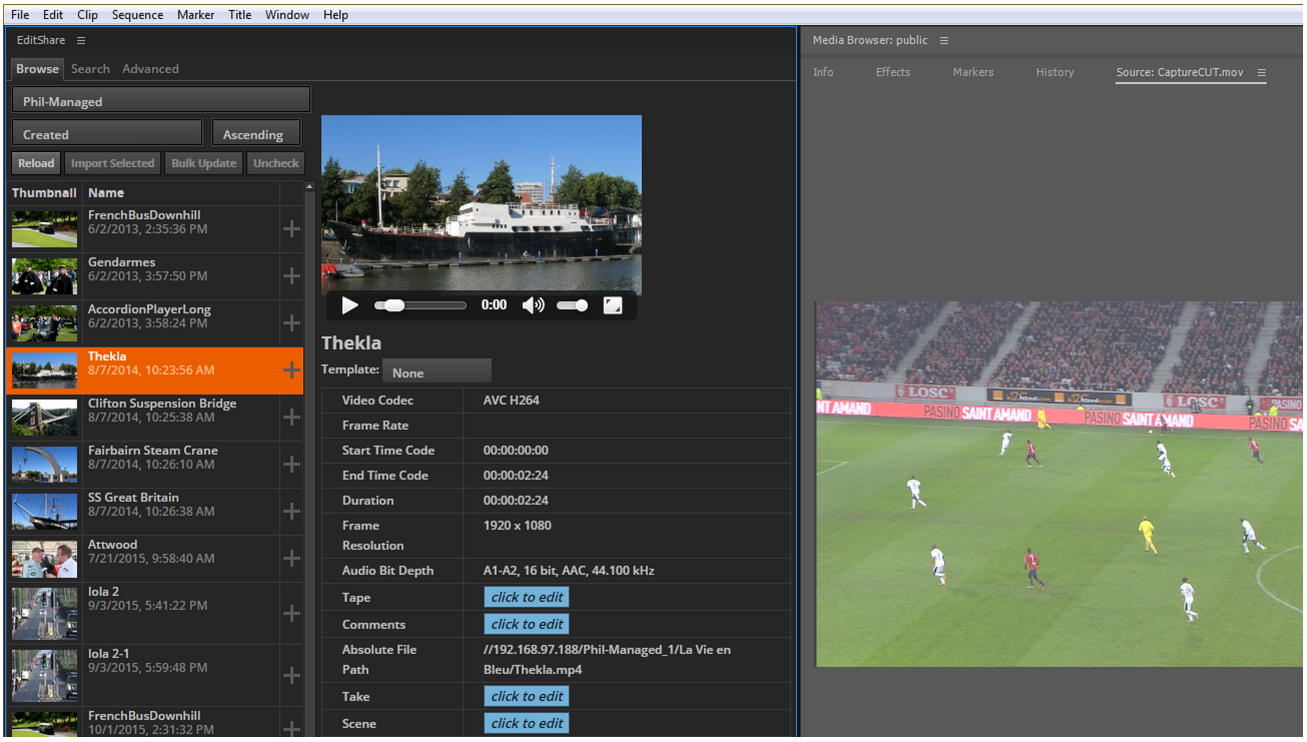


12. Click Save To Flow. A dialog displays, indicating the export to Flow was successful:



Flow Premiere Panel for Premiere Pro

The EditShare Flow Premiere Panel allows users to browse, search for, and review content from storage spaces that Flow has access to without leaving Adobe Premiere Pro. The content is available for immediate import into projects created with Premiere Pro. You can also update the metadata on clips in your storage spaces that Flow has access to from within Premiere Pro.



A connection is required to an EditShare AirFlow Server - for small systems this may be running on the same host as the Flow Admin server, or on a dedicated AirFlow server on larger systems. The Panel connects to storage spaces that Flow has access to via the AirFlow web service. You must have a license to cover the number of users you wish to run the Flow Premiere Panel.

See the following topics:

Requirements

Server Side

The requirements for server side operation are as follows:

- AirFlow Server running as a dedicated server or on the Flow Admin server (All-In-One)
- Access rights to Flow Premiere Panel enabled for named users (see "Enabling Flow Premiere Panel in Flow Control" on page 66).

Client Side

The following minimum requirements must be met to run the EditShare Panel in Adobe Premiere Pro:

- A Windows or macOS workstation running:
  - Adobe Premiere Pro CC 2015 (v9.x) or later
  - Adobe Extension Manager CC (v7.x)
  - Storage space that Flow has access to
- A connection to the EditShare AirFlow web service

Enabling Flow Premiere Panel in Flow Control

You require Administrator-level privileges in Flow Control to grant users access to the Flow Premiere Panel.

To use the Flow Premiere Panel, the Administrator for your system must set the appropriate user permissions in Flow Control:

STEPS

1. Open Flow Control by clicking the Login button under Control on the Flow Landing page: http://SERVER IP ADDRESS
2. A warning displays about the connection not being private:
   - Click Advanced.
   - Click Proceed to IP ADDRESS.
   - On macOS systems you need security rights to accept the certificates.
3. Sign in to Control using the default username and password. Please change the password upon successful login:
   - Username: admin
   - Password: changeme0479
4. Click on the Sign in button.
5. Click on the Users tab if it is not already selected.
6. For each user, click the tick box in the column labeled 'Flow Premiere Panel' to toggle access ON or OFF.

For further information, refer to the *Flow Administrator's Guide*.

Installation

Before installing the Flow Premiere Panel, make sure you know the IP Address of the AirFlow Server. Ask the administrator for your Flow system for this information.

Choose the installation procedure relevant to your operating system:

- "Windows Installations" on page 66
- "Macintosh Installations" on page 67

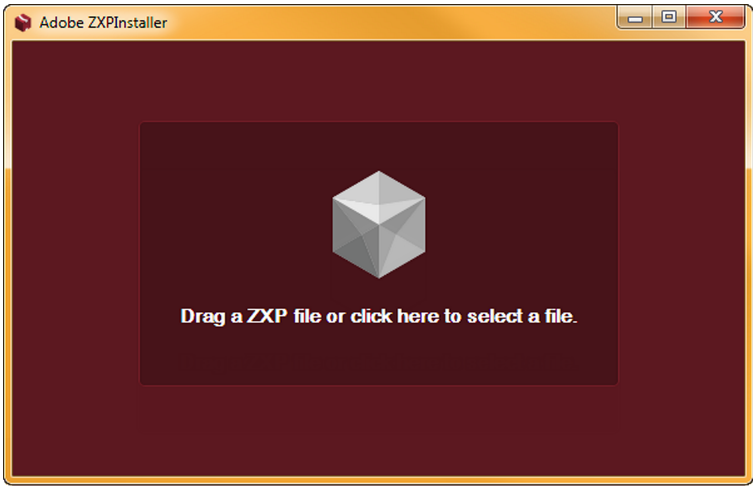
Windows Installations

Use the following procedure for Microsoft Windows systems:

STEPS

1. Download the Windows version from `http://zxpinstaller.com`
2. Double-click on `ZXPInstaller.exe`, and follow the Wizard instructions to install the file.

3. Download the Flow Premiere Panel ZXP file from your Flow server:
   a) On the Flow server Home page, click on the 'Flow Clients' link.
   b) Click on the `FlowPanel--.zxp` file to download the file to your desktop.
4. Launch the ZXP Installer tool.



5. Click inside the dark center zone of the ZXP Installer. When Open file dialog box opens, select the ZXP file you downloaded and click OK. The installer displays progress messages and finally confirms successful installation.
6. Start Adobe Premiere Pro 2015 and then check that the Flow Premiere Panel opens - select Windows > Extension > EditShare.

Macintosh Installations

Use the following procedure for Apple Macintosh systems:

STEPS

1. Download the Macintosh version from http://zxpinstaller.com
2. Double-click the DMG file to open the ZXP Installer, and then drag it to the Applications folder.
3. Download the Flow Premiere Panel ZXP file from your Flow server:
   a) On the Flow server Home page, click on the 'Flow Clients' link.
   b) Right-click the `FlowPanel--.zxp` file and, from the menu that opens, select 'Save as link'.
   c) Save the file to your desktop.
4. Launch the ZXP Installer from the Applications folder.
5. Drag the Flow Premiere PanelFlow Premiere Panel extension from the desktop onto the center of the ZXP Installer. A message displays along the bottom of the application to confirm successful installation.
6. Start Adobe Premiere Pro 2015 and then check that the Flow Premiere Panel opens - select Windows > Extension > EditShare. .

Chapter 13: Troubleshooting

If you experience issues when you are installing, try doing the following:

a) Run the `Flow.app` directly from the DMG by double clicking the `Flow.app`.

b) If Flow starts correctly this time, close Flow and then drag and drop the `Flow.app` file over the applications folder again.

Chapter 14: Technical Support

For questions not addressed in our documentation, contact EditShare Technical Support. Have the exact version number of your Flow implementation ready.

EditShare strongly recommends that you purchase a support agreement. If you do not have a support agreement, a per-incident rate may be available.

Please contact EditShare Technical Support at the following URL:

http://www.editshare.com/support

TP-00358-04