IBM **Aspera Connect User Guide 3.9.7**

Linux

Contents

Introduction

IBM Aspera Connect is an install-on-demand application that facilitates high-speed uploads and downloads with an Aspera transfer server.

Connect is compatible with most standard Web browsers. It integrates all of Aspera's high-performance transport technology in a small, easy-to-use package that provides unequaled control over transfer parameters. Connect includes the following features:

Feature	Description
FASP file transport	High-performance transport technology.
Browser interface	Uploads and downloads are launched transparently by a Web browser.
Flexible transfer types	Easily transfer single files, multiple files, or entire directories.
Transfer retry and resume	Automatically retries and resumes partial and failed transfers.
Browser-independent transfer	The Web browser can be closed once transfer operations have begun.
Transfer monitor	A built-in transfer monitor for visual rate control and monitoring.
HTTP fallback	HTTP fallback mode for highly restrictive network environments.
Proxy support	HTTP fallback and FASP proxy settings.
Content protection	Password-protect files that are being transferred and stored on the remote server.
Queueing	Allow a fixed number of concurrent transfers, and place the rest in a queue.

Drag-and-Drop Support

The drag-and-drop feature is not supported on Linux systems in this release of Connect.

Setting Up Connect

Installation

The procedure for installing IBM Aspera Connect requires enabling a browser extension for Connect in addition to installing the Connect application itself.

There are two ways to install Connect on your system:

- Guided Installation: The most common way of installing Connect. If Connect is not installed or needs upgrading when you try to upload or download files from an Aspera web app, such as Aspera Faspex or Aspera Shares, you are prompted to install Connect and guided through the process.
- Manual Installation: For system-wide (multi-user) installations, and a fallback method for users with non-typical web apps. You first install the Connect web extension for your browser. You then install the Connect application by running a desktop installer you download from the Aspera website.

System Requirements: For information on supported operating systems and browsers, see the release notes for this version of IBM Aspera Connect.

Before You Begin

Ensure that your Linux environment includes the following libraries:

- OpenSSL version 1.0.2g or higher (see below)
- Mesa EGL (If you get a launch error about libEGL, see below.)
- glib2 version 2.28 or higher.

The absence of up-to-date versions of these libraries could prevent Connect from launching.

Note: Connect does not support the Wayland compositor in this release. Some new distributions of Linux are switching to Wayland. If this is the case for your distribution, you can work around it by switching to Xorg mode.

OpenSSL

Depending on your Linux distribution and version, you may need to update your OpenSSL installation in order to allow Connect to launch. The required minimum version of OpenSSL is **1.0.2g**. To determine which version of OpenSSL is installed on your machine, run the following:

```
$ openssl version
```

For information on how to download and install the latest version of OpenSSL, see the KB article Upgrading OpenSSL on Linux for Connect 3.7.x.

Mesa EGL

Connect requires Mesa EGL to be installed on your machine. If you are unable to launch Connect, and you encounter an error about libEGL, it generally means the Mesa EGL package is not installed. To confirm this, run the following:

```
$ ldd ~/.aspera/connect/plugins/platforms/libqxcb.so
```

If you then see the following, you need to install the Mesa EGL libraries on your machine:

```
libEGL.so.1 => not found
```

To install the Mesa EGL libraries on Debian (for example), run the following:

```
$ sudo apt-get install libegl1-mesa
```

Then reboot your machine.

For other Linux OSs, run the equivalent command.

Guided Installation

If you do not have Connect installed and you attempt to transfer packages or files using an Aspera web application (such as Faspex or Shares), the Connect Welcome screen appears and prompts you to install Connect:
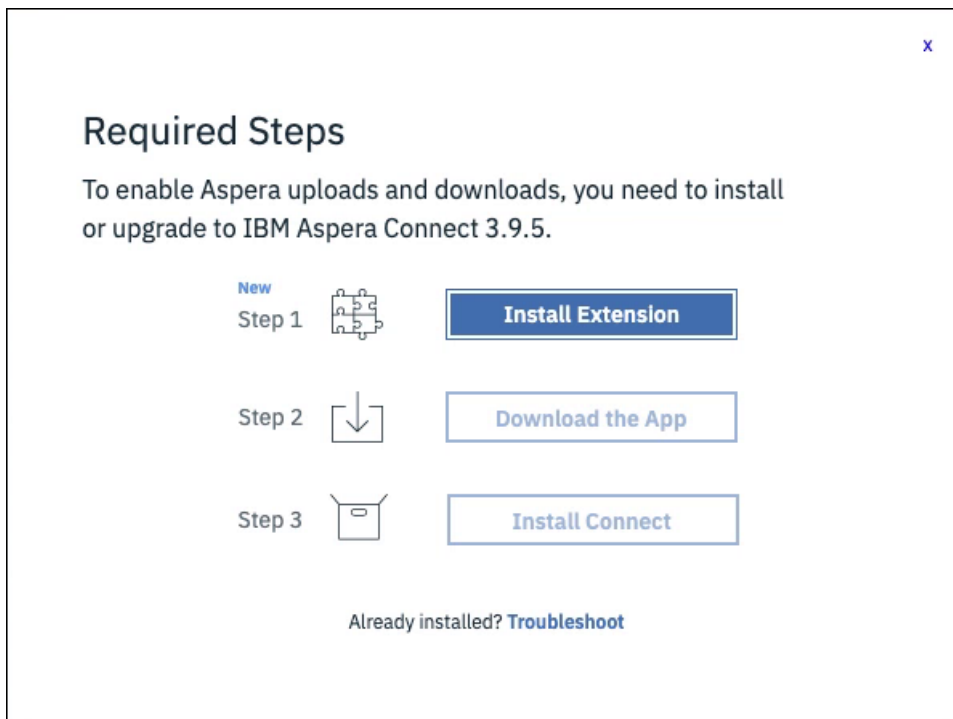
Depending on your browser/platform combination, the screens shown in these instructions may vary.

1. To begin, click **Install Extension**.

   Your browser's page for the Connect extension opens. See the instructions for your browser in Adding the Connect Browser Extension on page 7 to install the Connect extension. If successful, you'll see the message confirming the extension has been added.
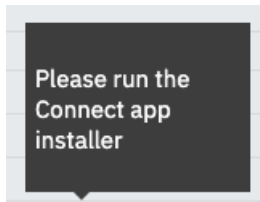
2. The welcome screen now prompts you to download the Connect application:
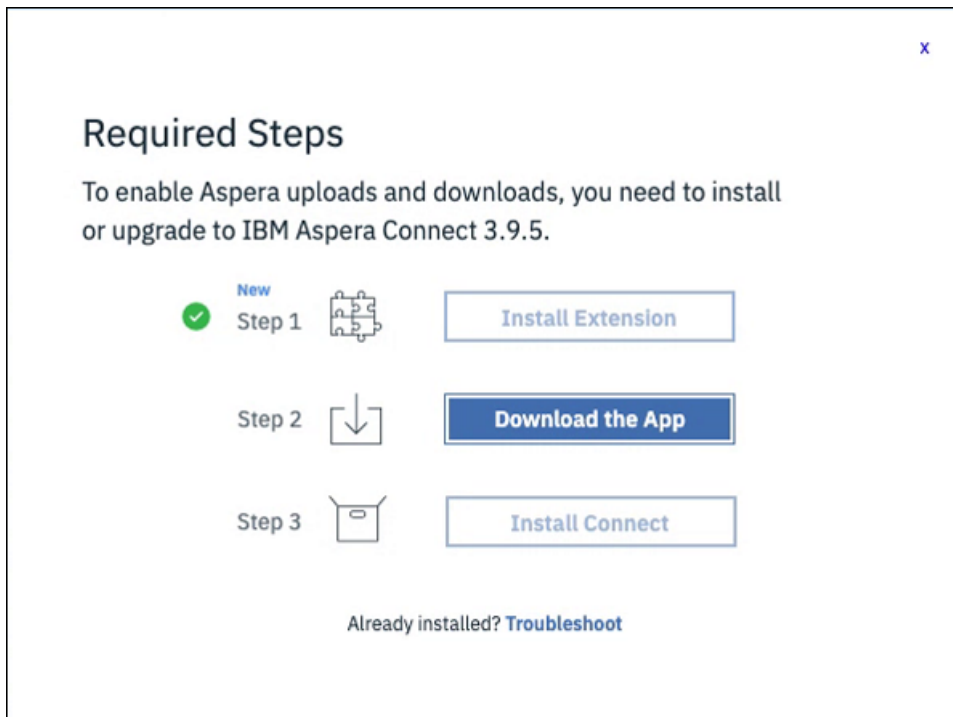
   Click **Download the App**. The following message appears as the installer (.exe, .dmg, or .rpm, depending on your OS) is downloaded to your Downloads folder.

Please wait.
Downloading the
Connect app
installer...
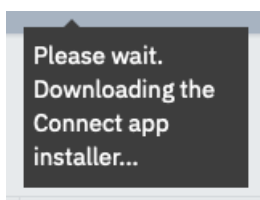
Once the installer has been downloaded, the following message appears:

Please run the
Connect app
installer

3. The welcome screen now prompts you to install the Connect application:
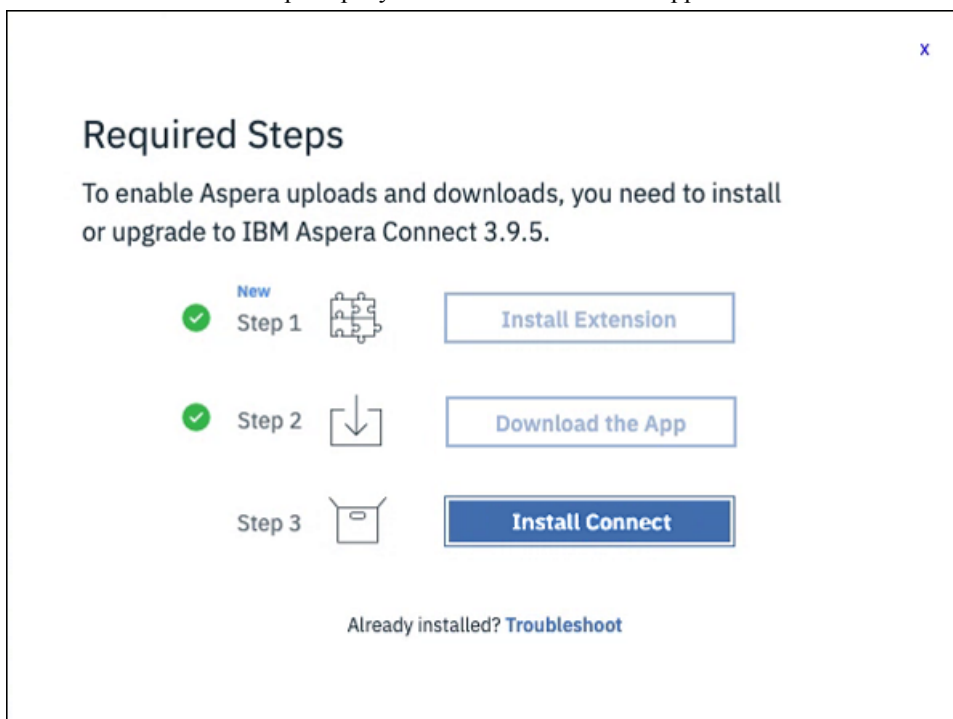
To install the Connect application, locate the installer app you just downloaded, open it, and click **Start**.

Once the Connect application has been installed, refresh your browser.

Manual Installation

Step 1. Install the Connect extension for your browser.

For instructions about obtaining the Connect extension for your browser, see Adding the Connect Browser Extension on page 7.

Step 2. Download and run the Connect application installer.

You can download the Connect package for your OS platform directly from http://downloads.asperasoft.com/connect/. Once downloaded, close your Web browser and run the following commands in the installer's directory (replace the version number accordingly):

```
$ tar -zxvf ibm-aspera-connect-version.tar.gz
$ ./ibm-aspera-connect-version.sh
```

Note: The Connect installation script should not be run by user **root**. Connect on Linux may only be installed per user, as opposed to system wide. To avoid errors, install Connect per user, excluding user **root**.

Adding the Connect Browser Extension

For supported web browsers, this section explains how to obtain and add the IBM Aspera Connect extension to the browser you will use. The Connect extensions are specific to the browser; the procedure for adding an extension to a browser is the same regardless of which OS platform that browser is running on. With a guided install, clicking **Install Extension** opens the extension link for the browser you are using. With a manual install, be sure to download the extension for the browser you intend to use with Connect.
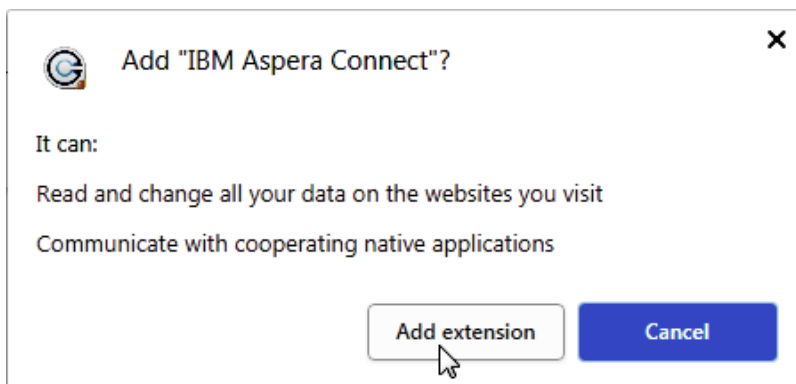
<u>Chrome</u>

To obtain and install the Connect extension for Chrome, follow the procedure below:

1. Click **Install Extension** (guided install method), or open the IBM Aspera Connect page on the Chrome Web Store (manual install method). The following page opens:
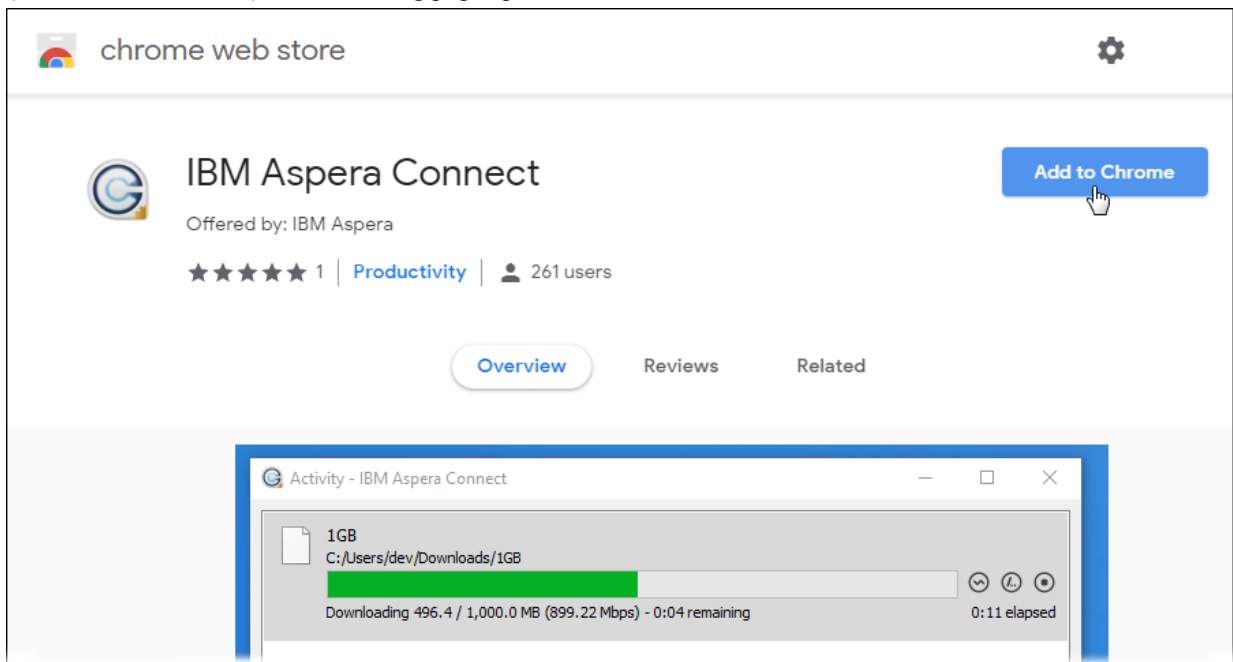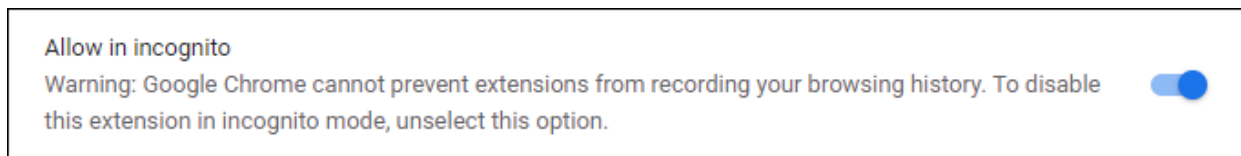

2. Click **Add to Chrome**. The **Add "IBM Aspera Connect"?** popup appears.
3. Click **Add extension**.

If successful, you'll see the message "IBM Aspera Connect has been added to Chrome".

Note: By default, the Connect extension is disabled in Chrome's incognito mode. To enable the Connect extension, right-click the small Connect icon in the upper-right corner of your browser page. Then open **Manage extensions**
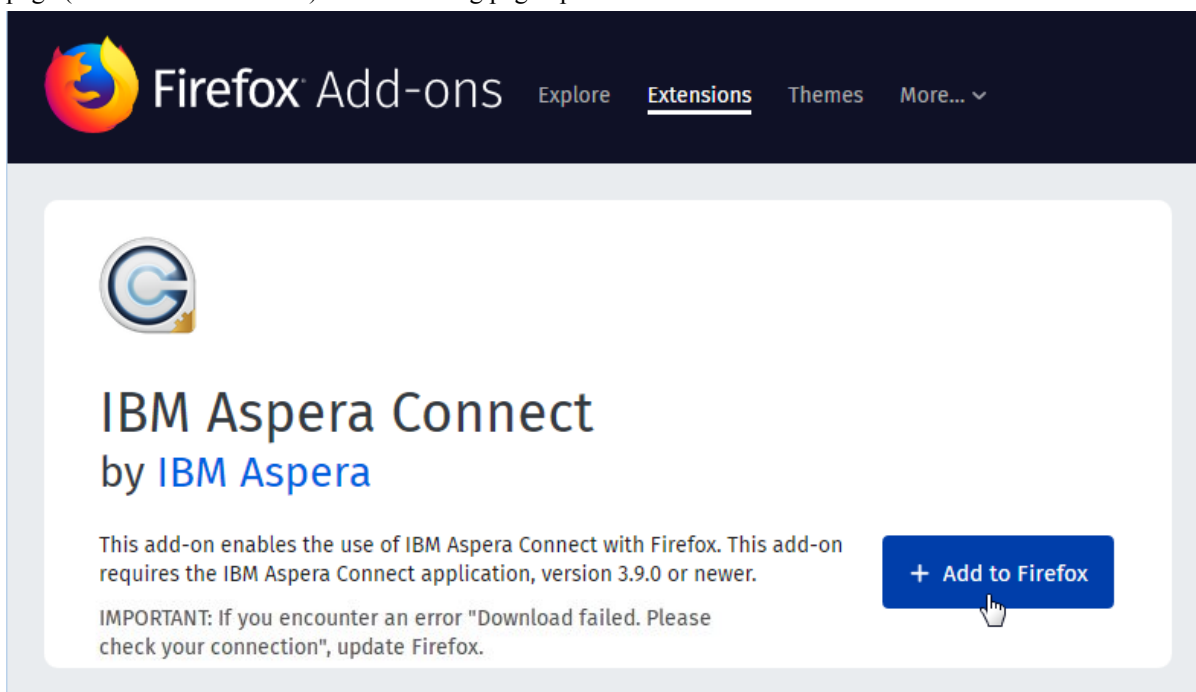
and scroll down to the heading **Allow in incognito**. Then set the switch to ON as shown below. Note that the Connect extension does not record browser history.
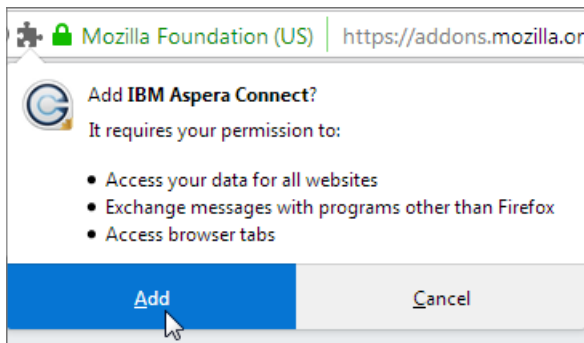
Allow in incognito
Warning: Google Chrome cannot prevent extensions from recording your browsing history. To disable this extension in incognito mode, unselect this option.

Firefox

To obtain and install the Connect extension for Firefox follow the procedure below:

1. Click **Add extension** (guided install method), or open the IBM Aspera Connect page on the Firefox Add-Ons page (manual install method). The following page opens:

Firefox Add-ons   Explore   **Extensions**   Themes   More... ∨

IBM Aspera Connect
by IBM Aspera

This add-on enables the use of IBM Aspera Connect with Firefox. This add-on requires the IBM Aspera Connect application, version 3.9.0 or newer.

IMPORTANT: If you encounter an error "Download failed. Please check your connection", update Firefox.

+ Add to Firefox

2. Click **+ Add to Firefox**. The **Add IBM Aspera Connect?** popup appears.

Mozilla Foundation (US)   https://addons.mozilla.or

Add **IBM Aspera Connect**?
It requires your permission to:

- Access your data for all websites
- Exchange messages with programs other than Firefox
- Access browser tabs

Add   Cancel

3. Click **Add**.

   If successful, you'll see the message "IBM Aspera Connect has been added to Firefox".

After Installation

Once Connect has finished installing, it will execute automatically when you access a Connect, Faspex, or IBM Aspera Shares web page. Look for the Connect icon in your menu bar to confirm that it's running.

If Connect does not start automatically (or if you need to restart it), you can execute the application manually with the following command:

```
$ ~/.aspera/connect/bin/asperaconnect
```

> **Tip:** Aspera provides a web-based diagnostic tool that can be helpful in identifying connection issues. You can access the IBM Aspera Connect Diagnostic Tool here:
>
> https://test-connect.asperasoft.com/

Network Environment

Connect typically requires some configuration steps in order to function in your network environment. Configuration settings also allow you to limit transfer rates and use an HTTP proxy.

If you need to configure any network proxies or override network speeds, you can do so through Connect's **Network** option. Before modifying Connect's network configuration, review the network requirements below, which describe ports that may need to be open on your network (such as ports 22 and 33001).

Network Requirements

Your SSH outbound connection may differ based on your organization's network practices. Although TCP/33001 is the default setting, consult your IT department for questions related to which SSH ports are open for file transfer. Also see the help documentation for your particular operating system, for specific instructions on configuring your firewall. If your client host is behind a firewall that does not allow outbound connections, you will need to allow the following:

- Outbound connections for SSH, which is TCP/33001 by default, although the server side may run SSH on another port. Check with your IT department for which SSH ports are open for file transfers.
- Outbound connections for FASP transfers, which is UDP/33001 by default, although the server side may run FASP transfers on one or more other ports. Check with your IT department for which SSH ports are open for FASP transfers.
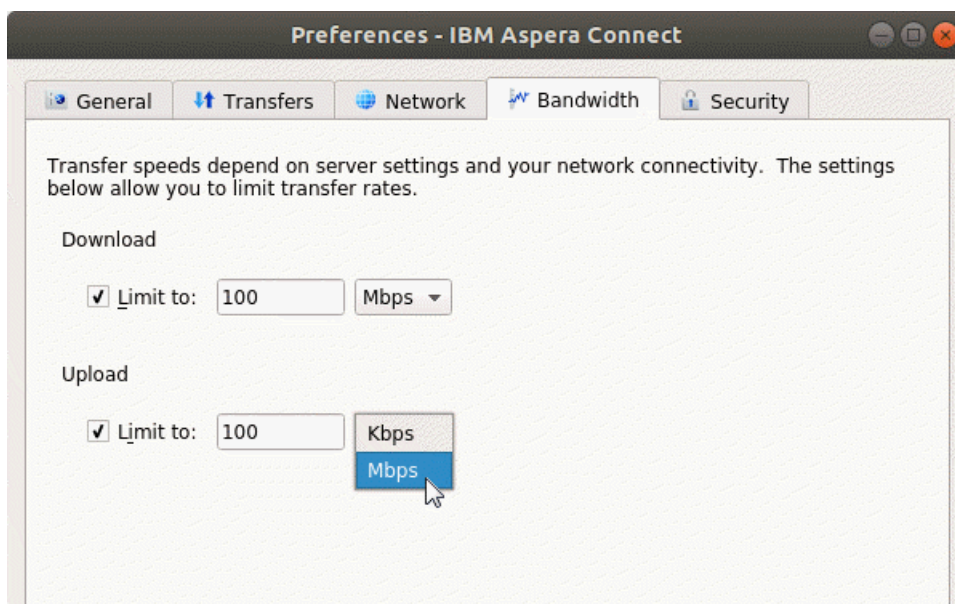
Limit Transfer Rates

Important: Set values in these fields only if you need to limit the bandwidth that Connect uses. For example, your office may have limited bandwidth to share among its users. **Exception:** For the SaaS products Files and Aspera on Cloud, use this field to set the *default transfer speed*.

If Connect is already running, go to the menu bar and right-click **Aspera Connect > Preferences**. If it is not running, you can execute the application manually with the following command:

```
$ ~/.aspera/connect/bin/asperaconnect &
```
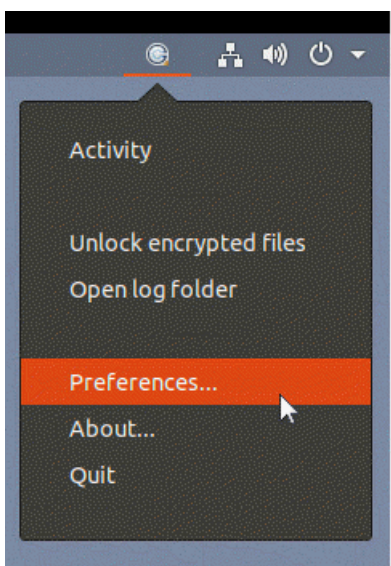
You can limit Connect transfer rates from the **Bandwidth** tab:

You can limit the download and upload transfer rates by enabling the respective checkboxes and entering a rate in either Mbps or Kbps. Note that setting a maximum speed doesn't guarantee your transfers will ever achieve that speed. Actual performance depends on the following factors:

- Your network's bandwidth: Available bandwidth on your network may limit your transfer rate, even if you enter larger numbers into these fields.
- Your Aspera server transfer settings: Settings on your server may limit your transfer rate even if your network bandwidth and the numbers you enter are larger.

HTTP Proxy

HTTP fallback serves as a secondary transfer method when the Internet connectivity required for Aspera accelerated transfers (UDP port 33001, by default) is unavailable. If UDP connectivity is lost or cannot be established, if you have configured an HTTP proxy, the transfer continues over the HTTP protocol based on this proxy configuration.

Note: Although the HTTP proxy is used primarily for the HTTP fallback feature, it can be used for all HTTP-related activities performed by Connect. However, it cannot be used for FASP transfers.

To configure and enable an HTTP proxy server, open **Preferences > Network** in Connect and look for the HTTP Proxy section.
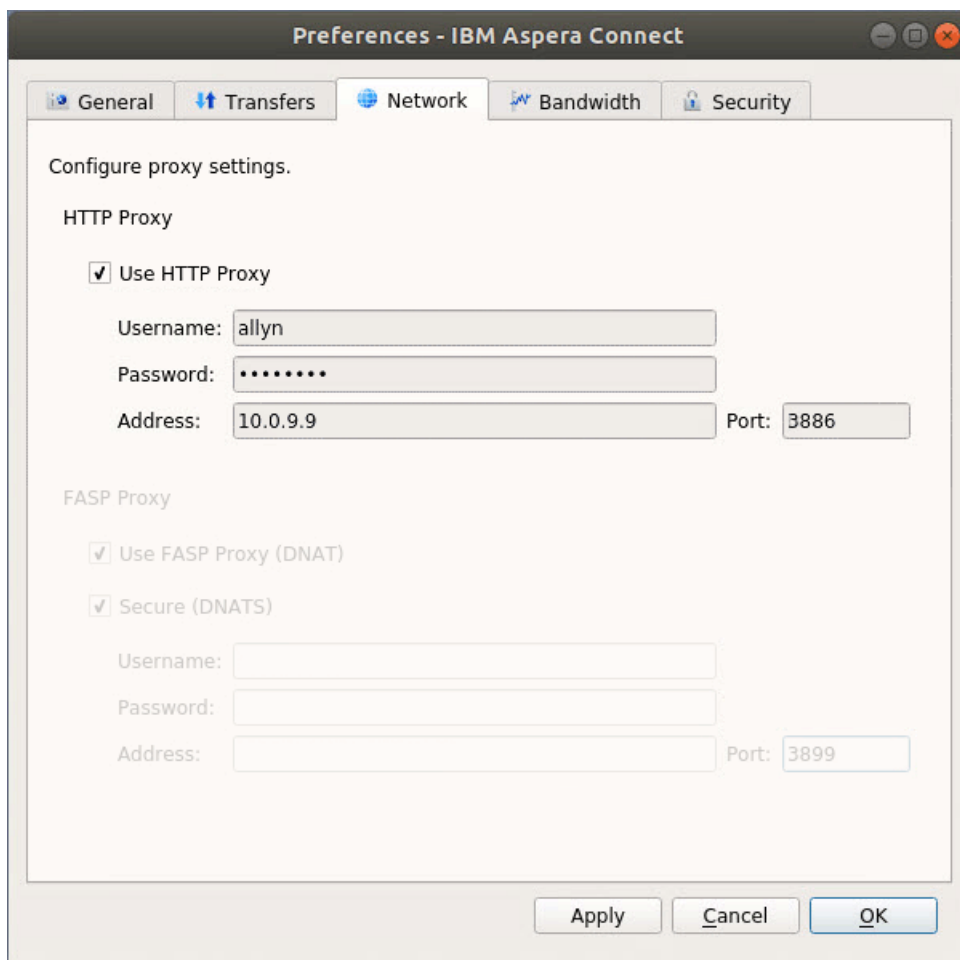

To configure an HTTP proxy, select **Use HTTP Proxy** and enter your settings. These settings include NTLM authentication credentials (username and password), as well as the host name/IP address and port number.

FASP Proxy

When FASP proxy is enabled, Aspera passes the DNAT or DNATS (secure) username, password, server address, and port to `ascp`.

To set up a FASP proxy, do the following:

1. Go to **Preferences > Network** in Connect and locate the FASP Proxy section in the lower half of the dialog.
2. Select the following checkboxes:
    - **Use FASP Proxy (DNAT)**
    - **Secure (DNATS)**
3. Enter your proxy server username, password, address, and port number.
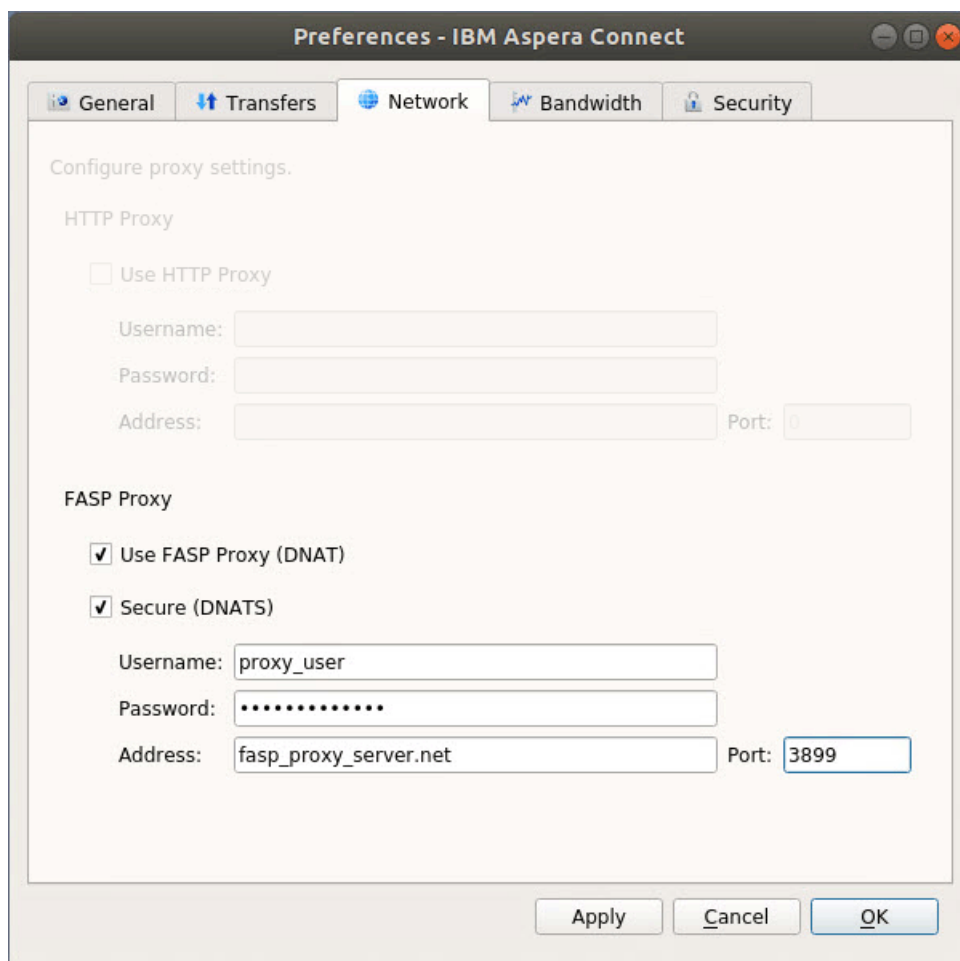
Note: If you enable FASP proxy, you may need to add `local.connectme.us` as a proxy exception in order for Connect to function.

Basic Configuration

The Connect Preferences dialog allows you to configure logging behavior and various options for file transfers, such as transfer queuing, file download location, and the allowed number transfer retries.
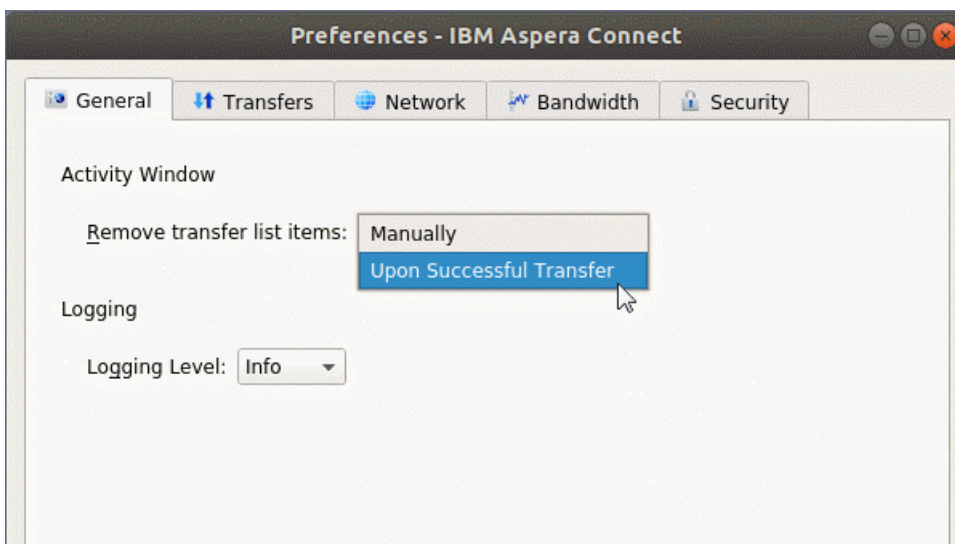
If Connect is already running, go to **System Tray > Right-click Aspera Connect > Preferences**. If it is not running, you can execute the application manually with the following command:

```
# ~/.aspera/connect/bin/asperaconnect &
```
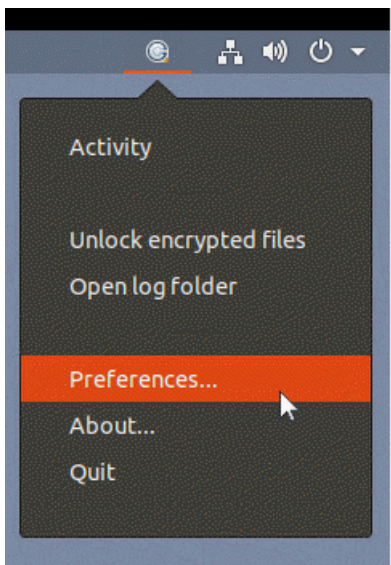
General Preferences

Connect's general application behavior can be configured in the **General** tab.

Under the **General** tab, you can modify the following settings:

*   Specify how to remove transfer sessions from the Activity window: manually, or automatically on successful transfers.
*   Specify the level of detail to be logged for transfers:

    *   **Info** – Default. Displays general messages about requests, `ascp` spawn options, and transfer status changes.
    *   **Debug** – Verbose. Displays validation and FASP management messages, and passes `-D` to `ascp`.
    *   **Trace** – Extra verbose. Passes `-DD` to `ascp`. Used only for diagnosing problems.
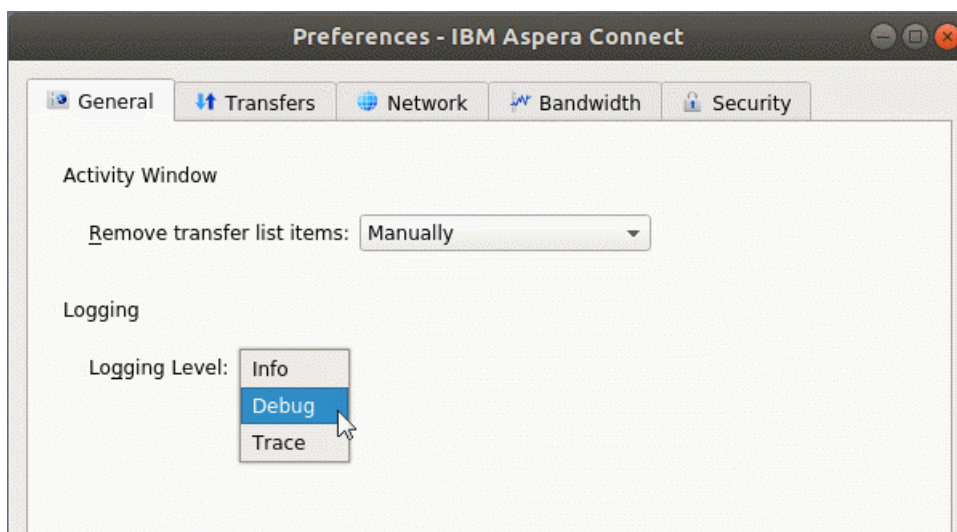
The logging feature is typically used for troubleshooting and when contacting Aspera Support.

Transfer Preferences

Connect's transfer behavior can be configured under **Preferences > Transfers**.
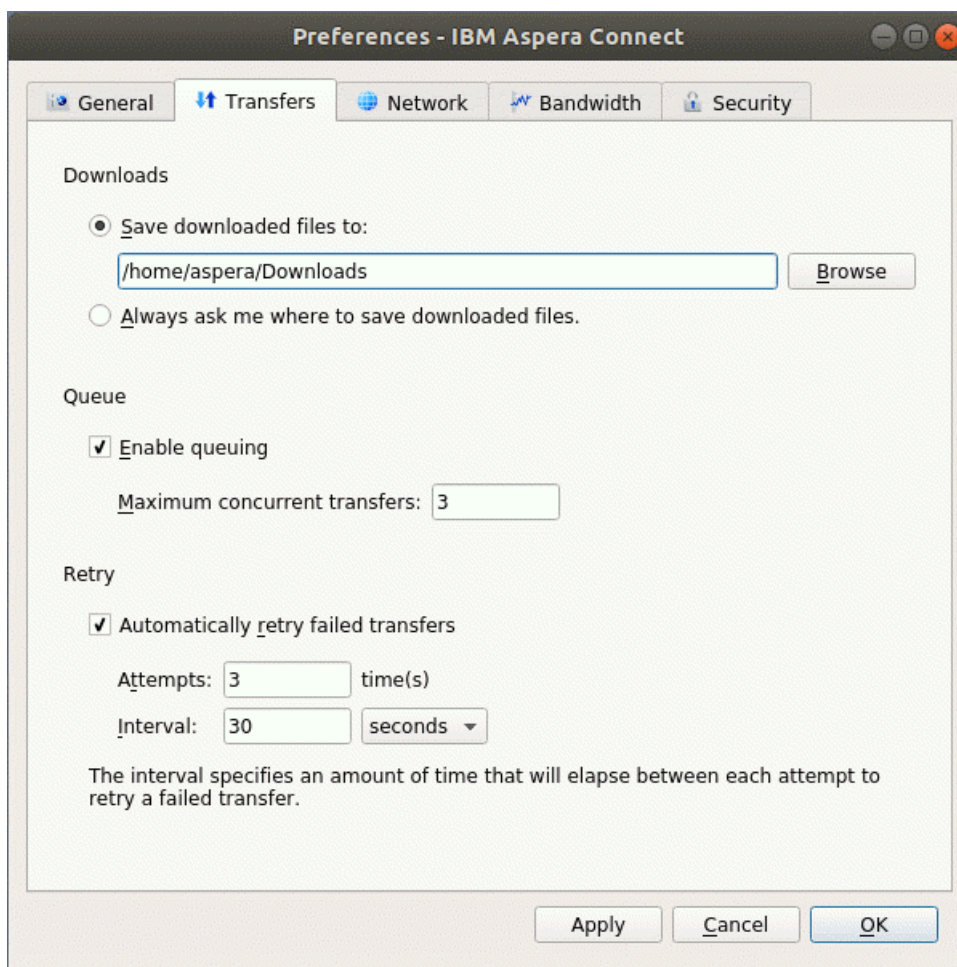
Downloads

By default, Connect downloads files to the current user's `Downloads` folder. To change this setting, adjust the following settings:

- **Save downloaded files to** – Specify the path to the location where downloaded files should be saved.
- **Always ask me where to save downloaded files** – Choose this option to select a location for each download.

Queue

- **Enable queuing** – Enable or disable the queuing of transfers.
- **Maximum concurrent transfers** –This allows a specified number of transfers to run concurrently and places the remainder in a queue.

Retry

You can set a retry rule if a transfer fails. Set the retry rule as follows:

- **Automatically retry failed transfers** – enable or disable.
- **Attempts** – specify the number of times Connect should attempt to retry a failed transfer.
- **Interval** – specify the amount of time that Connect should wait before retrying a transfer (in seconds, minutes, or hours).

Security Configuration

Connect security facilities allow you to specify restricted and trusted hosts, encrypt content, and manage authentication credentials.

features the following capabilities for minimizing security risks when uploading or downloading files:

- You can add Aspera servers as **Trusted Hosts** to avoid the recurring security prompt, or add servers to the **Restricted Hosts** list to require confirmation every time you attempt to initiate a transfer with that host.
- You have the option of saving your authentication credentials when you connect to a server, as well as removing them from the **Passwords** tab.
- **Content protection** is a feature that allows uploaded files to be encrypted during a transfer for the purpose of protecting them while stored on a remote server. The uploader sets a password while uploading the file, and the password is required to decrypt the protected file.

The settings above can be configured in the Connect **Preferences** dialog. If Connect is already running, go to **System Tray > Right-click Aspera Connect > Preferences**. If it is not running, you can execute the application manually with the following command:

```
$ ~/.aspera/connect/bin/asperaconnect &
```
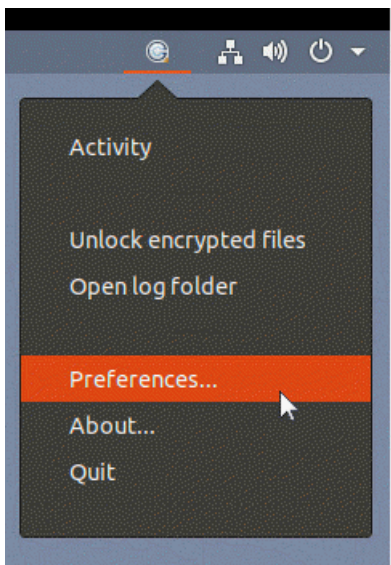
Managing Hosts

When a transfer is initiated and the **Use my choice for all transfers with this host** option is enabled in the confirmation dialog, the server that you are allowing or denying will be added to the **Trusted Hosts** or **Restricted Hosts** list, respectively. To view, add or remove additional trusted hosts, go to **Security > Trusted Hosts**. Enter the host's address in the specified text field and click **Add**.
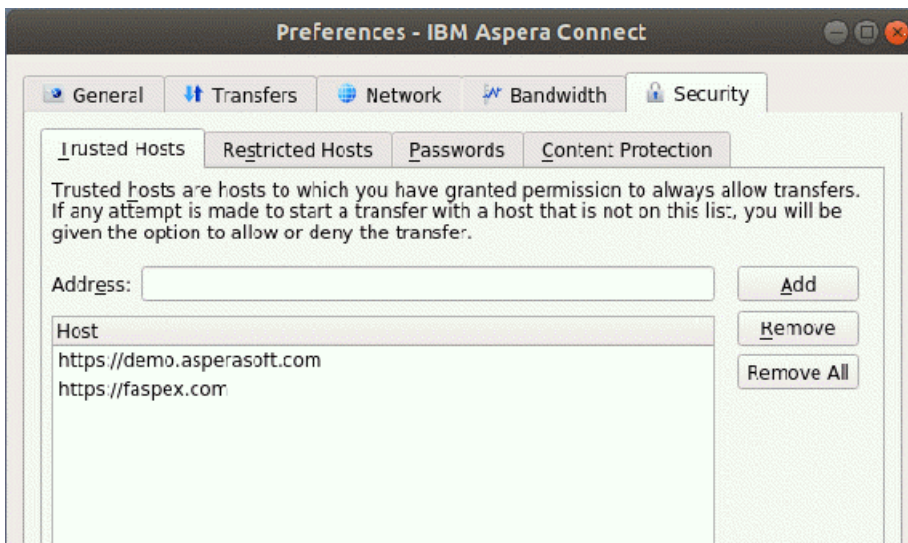

To view, add or remove restricted hosts, go to **Security > Restricted Hosts**. Here, enter the host's address in the specified text field and click **Add**.
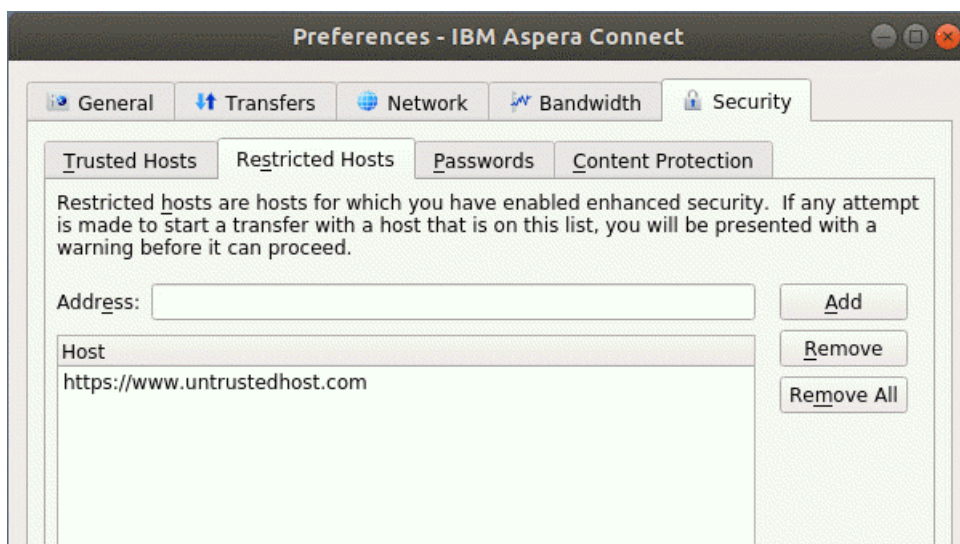
Important: By adding a host to the restricted list, you will be required to provide confirmation every time you attempt to initiate a transfer with that host.

To view, add, or remove saved password information for a host, go to **Security > Passwords**. Here, you can remove saved login credentials; however, you cannot add credentials to this list directly. Whenever you attempt a transfer with a server where your credentials are not saved, you are prompted with an authentication dialog and offered a **Remember this password** checkbox. Marking the checkbox causes your login credentials to be saved and appear in this tab.
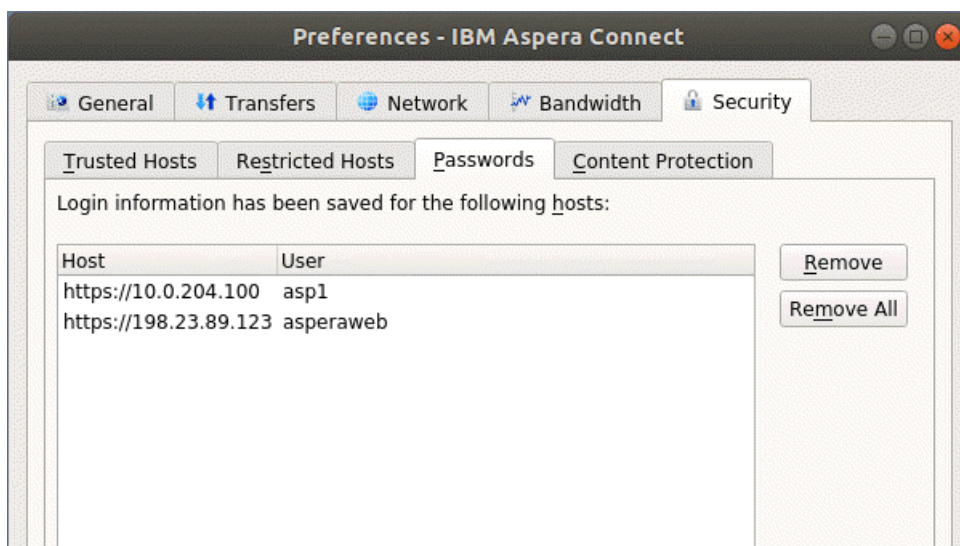
Content Protection

To specify hosts to which you want all uploads to be encrypted, open the **Content Protection** tab under **Security**. In the Address field enter the Aspera server address and click **Add**. The server is then added to the list.

When uploading files to a server on the list, or one that is configured as a content-protected host, you are prompted for a passphrase to encrypt the files. You can also choose not to encrypt files if the server allows it.

For details on encryption and decryption, see File Encryption.

Connect Functionality

Initiating a Transfer

You can use Connect with the Aspera demo server to test basic transfer functionality and also familiarize yourself with how to initiate uploads and downloads.

The steps below describe how to initiate a file transfer, and shows how to perform a download from Aspera's demo server.

Important: In order for Connect to function correctly, your browser *must have cookies enabled*. For instructions on verifying this setting, see the help documentation for your browser.

1. Open your web browser and log in to Aspera's demo transfer server at http://demo.asperasoft.com/aspera/user.

   Enter the following credentials when prompted:

   • **User:** asperaweb
   • **Password:** demoaspera

2. In , open the folder `aspera-test-dir-large`.

   To select a file or folder you want to download, click the checkbox next to it. You can also click multiple boxes to select more than one file or folder to download at a time. Once you've made your selections, click the **Download** button.
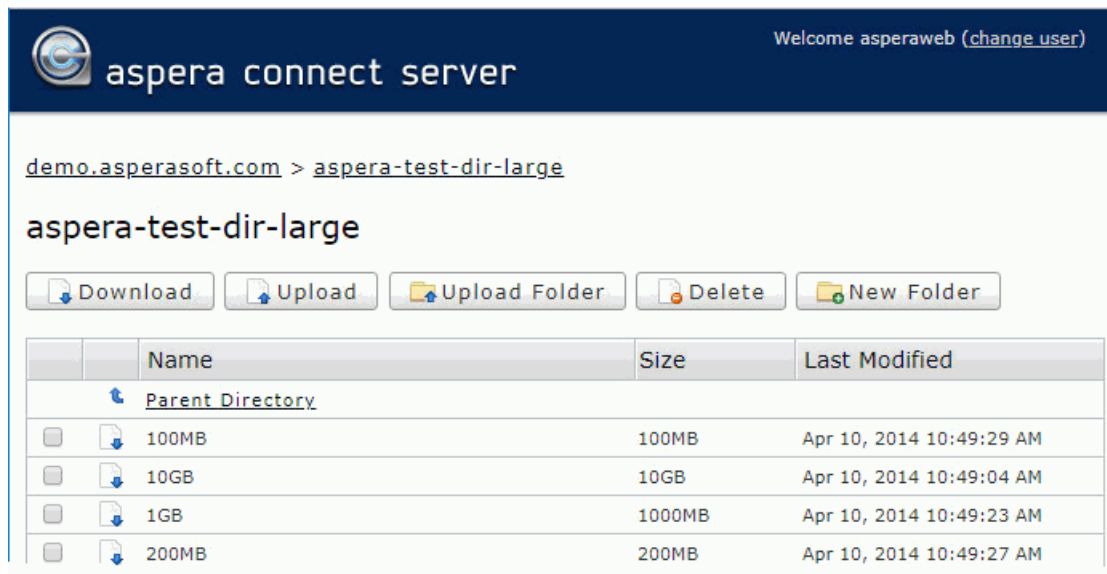
3. Confirm the download.

   A dialog appears asking you to confirm whether the transfer should proceed. Select **Allow** to begin. To skip this dialog in the future, enable the checkbox **Use my choice for all connections with this host**.
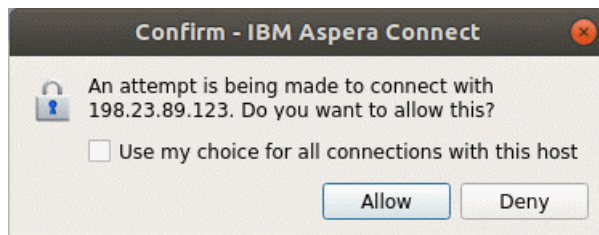
4. Enter credentials to authenticate the transfer.

   The following dialog appears asking for a username and password. Fill in the server account name and password.

   Note: If the server OS is Windows and the you are using a domain account, all characters in the domain name must be uppercase.
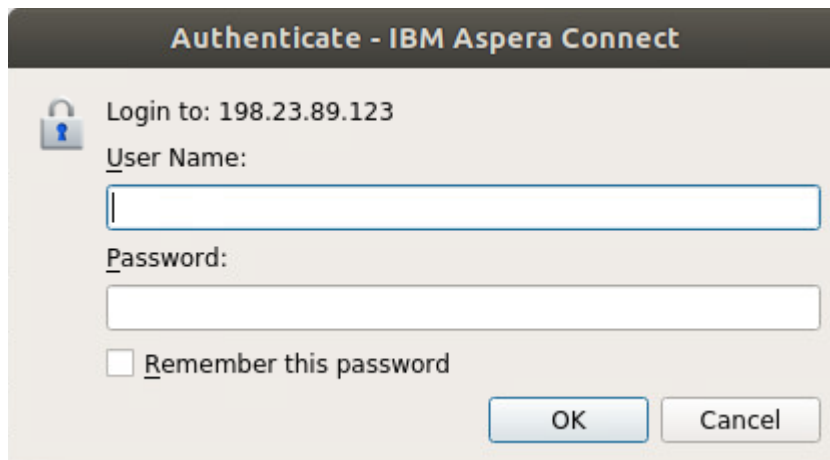
You can also use the Aspera demo server to upload files. When you log in to the server, open the `Upload` folder. Click the **Upload** button to select files from your system to upload to the demo server. You can use the checkboxes to select multiple files to upload at once. To select folders to upload, click **Upload Folder**.

Note: When uploading, do not transfer files whose names contain the following characters:

```
/   \   "   :   '   ?   >   <   &   *   |
```

Once you confirm that the configuration settings are correct and that Connect is working properly, you can begin transferring with your organization's Aspera server. To get started, simply point your browser to your server's host name. For example, if the server is running IBM Aspera Connect Server:

```
http://server_host_name/aspera/user
```

Note that the URL format of the address can be different, depending on your server product.

The Activity Window

In the Activity window, you can view and manage all transfer sessions. From here you can stop a transfer, resume it, retry a failed transfer, and open the location containing the content.
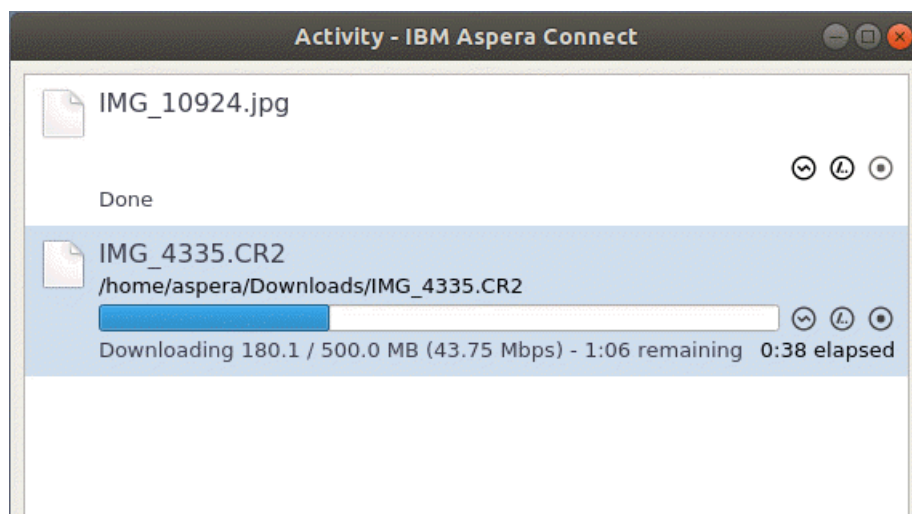
The Activity window contains the following controls:

- ⊙ Open the Transfer Monitor. For more information on this feature, see Monitoring Transfers.
- ⊘ Open the folder on your computer that contains this content.
- ⊙ Stop the transfer.
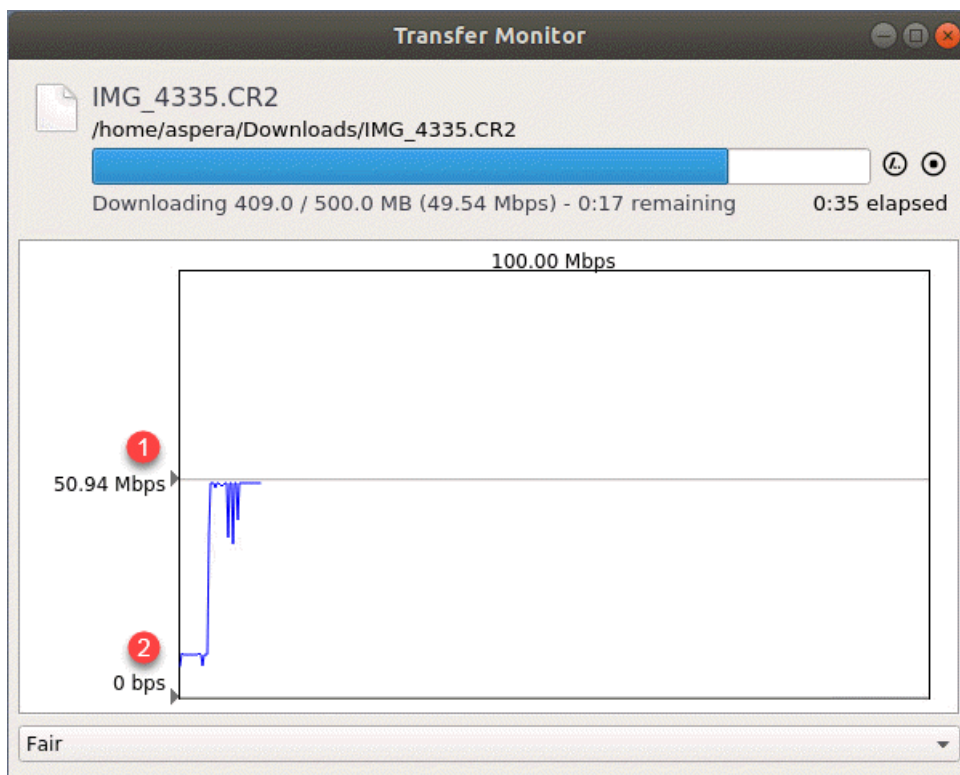- ⊙ Resume a stopped transfer, or retry a failed transfer.

When the queuing option is enabled, the number of concurrent transfers is limited. The additional transfers are queued in the Activity window and initiated when a transfer is finished. You can manually start a queued transfer by clicking the ⊙ button. You can also right-click on a started or stopped transfer to access various controls. The example below shows the right-click options for a stopped transfer.
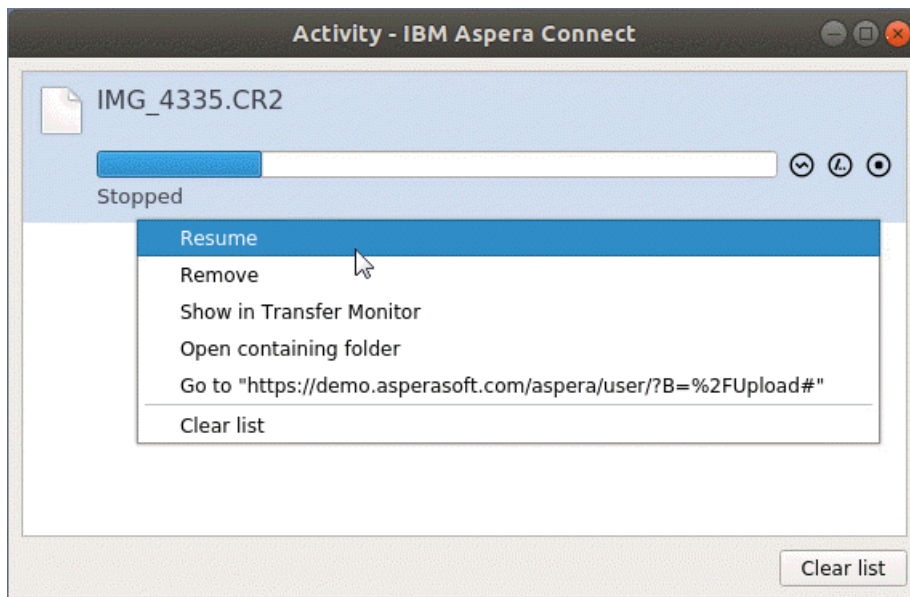
Monitoring Transfers

From the Transfer Monitor window, Connect lets you monitor transfer progress. The Transfer Monitor provides a graphical interface to adjust file transfer speed, adjust the minimum transfer rate, and set rate policy—all while the transfer is in progress.

To monitor a transfer session shown in the Activity window, click the ⊙ icon shown with the session. The Transfer Monitor opens:

The following controls are available in this window:

- ⬤ Open the folder on your computer that contains this content.
- ⬤ Stop the transfer.
- ⬤ Resume a stopped transfer, or retry a failed transfer.

If you have sufficient server privileges and your transfer server is configured to allow it, you can adjust or set your desired transfer rate, minimum transfer rate, and rate policy. However, actual performance is subject to the available bandwidth on your network as well as the transfer settings on your server:

- Target transfer rate – To adjust the transfer rate, locate and select the upper slider **1** on the left side of the graph and move it up or down to change the desired rate. Note that the actual rate depends on several factors.

- Minimum transfer rate – To set the minimum transfer speed, locate and select the bottom slider **2** on the left side of the graph and move it up or down to set the desired rate. The actual minimum rate depends on several factors.

- Transfer policy – Select the transfer policy from the drop-down list at the bottom of the window. Note that your specified rate policy may be subject to external limitations:

Fixed

> The transfer transmits data at a rate equal to the target rate, although this may impact the performance of other traffic present on the network.

High

> The transfer rate is adjusted to use the available bandwidth up to the maximum rate.

Fair

> The transfer attempts to transmit data at a rate equal to the target rate. If network conditions do not permit that, it transfers at a rate lower than the target rate, but no less than the minimum rate.

Low

> The transfer rate is less aggressive than Fair when sharing bandwidth with other network traffic. When congestion occurs, the transfer rate is decreased to the minimum rate, until other traffic retreats.

- Additional options – Right-clicking in the area above the graph opens the same menu as doing so in the Activity window, giving options such as stop or remove transfers, and open the transfer's containing folder.
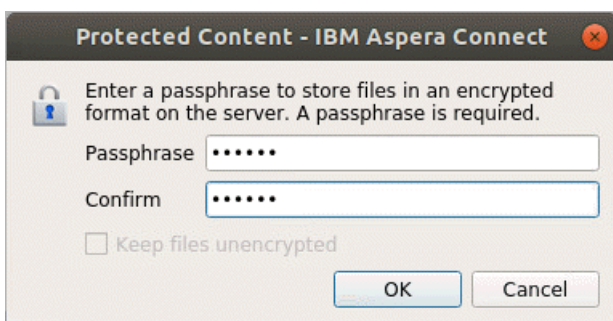
File Encryption

Connect provides a means to protect files with Aspera encryption when the files are uploaded to a content-protected server, and to decrypt those files when downloaded.

Whenever you upload files to a server configured as a content-protected host, Connect prompts you to create a passphrase to protect the files with Aspera encryption. When you download those files, access to the files' contents requires that you provide the passphrase to decrypt them. Files can be decrypted during the download transfer, or decrypted after the download is complete. Files can be decrypted from within Connect, or by using the utility IBM Aspera Crypt, which is included in the Connect installation.
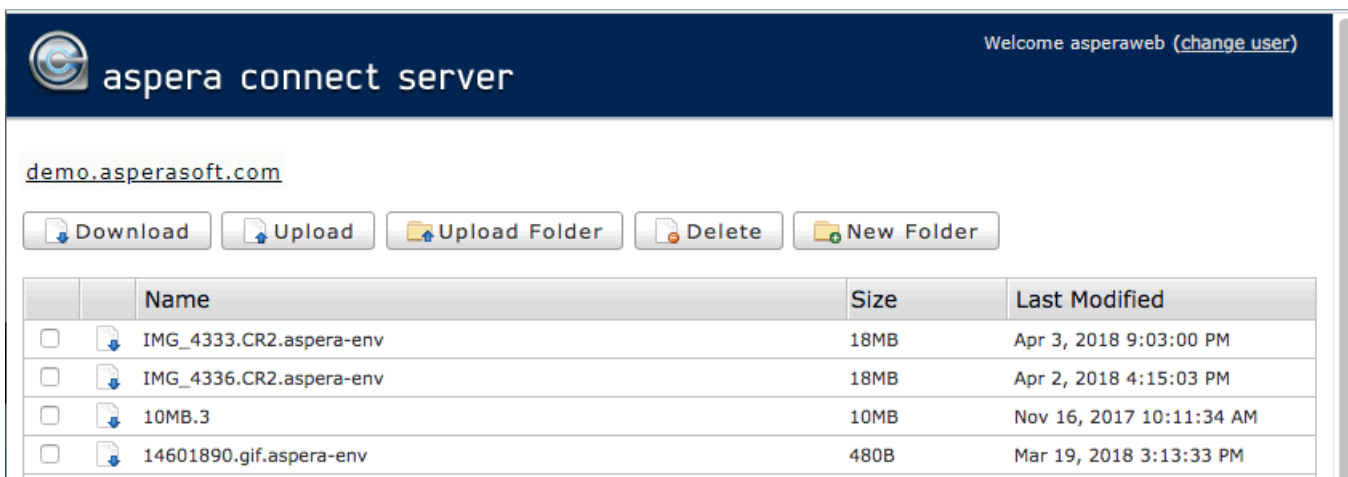
Encrypting Files

Servers to which you want to upload encrypted files must be enabled for content protection. For more information, see Content Protection.

When uploading files to a content-protected server, you are prompted for a passphrase to encrypt the files. You can either enter the passphrase in the text field, or check **Keep files unencrypted** to proceed without using this feature (if allowed by the server). To start the transfer, click **OK**.
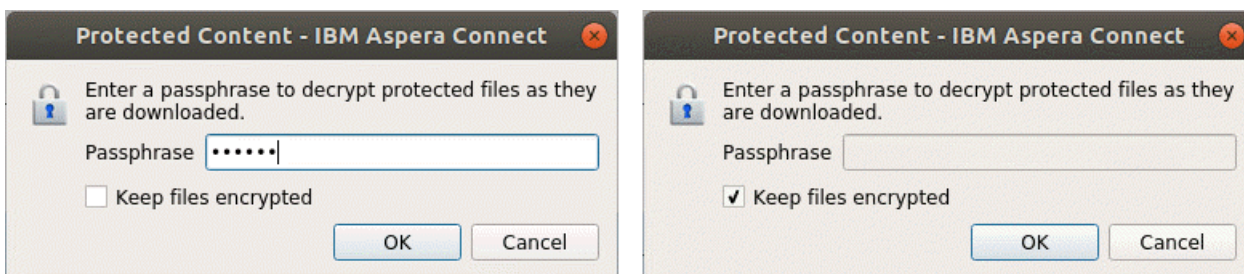
Once Aspera-encrypted files have been uploaded to your server, they can be identified by an additional file extension, `.aspera-env` (Aspera Security Envelope).

Decrypting Files During Download

When you use Connect to download a content-protected file, a window opens prompting you for a decryption passphrase:


You have two options:

*   Enter the passphrase. In this case, Connect decrypts the files *during* the download. When the files arrive at their destination, they are no longer encrypted, and no further steps are necessary.
*   Check the **Keep files encrypted** box. In this case, Connect transfers the files to the destination in the encrypted state. You don't need to enter a passphrase (if you do, it is ignored). With this option, the files retain the `.aspera-env` extension on your disk. You can decrypt the files any time after the download has completed.

To proceed with the download, click **OK**. The Connect Activity window appears and shows the progress of the transfer. When finished, the progress bar disappears, indicating the files are now at their destination.

Decrypting Files after Download

To decrypt downloaded files you have chosen to keep encrypted, run the IBM Aspera Crypt utility. You can launch Crypt using any of the following methods:
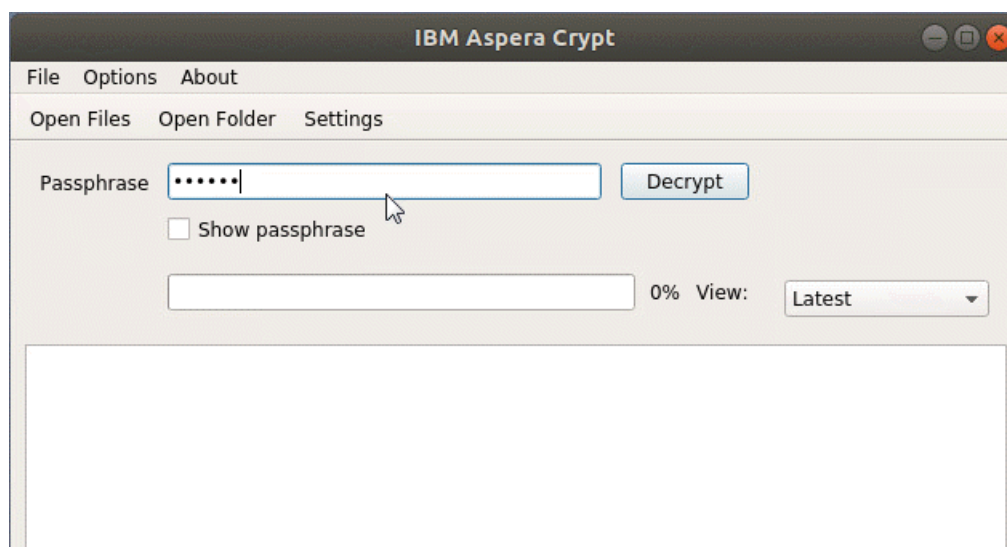
- From the Connect Activity window: Once the transfer is complete, the Connect Activity window displays the link **Unlock encrypted files**:
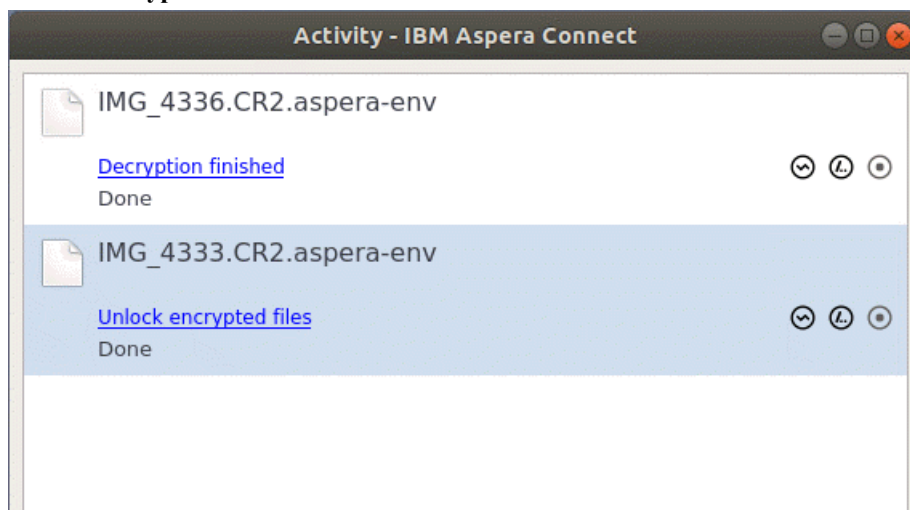
  To launch Crypt, click **Unlock encrypted files**. This is the most convenient method for unlocking protected files once they've been transferred. Depending on your preferences settings, you can also decrypt your files from here later, as the transfer records remain in the Connect Activity window until you remove them by clicking **Clear List**. However, the files remain only if under the **Preferences > General** you chose to remove transfer list items **Manually** instead of automatically after transfer.
- By opening an Aspera-encrypted file: You can launch Crypt by opening an `.aspera-env` file from the context menu or by double-clicking the file.
- From the Connect application menu: To open the application menu, click the Connect icon in the menu bar. To launch Crypt, select **Unlock encrypted files**.

When you launch Crypt, the following window opens:

If you launched Crypt from the Connect Activity window or by opening an `aspera-env file`, Crypt decrypts the files that were selected. From the Crypt window, you can also select **Open Files** or **Open Folder** and browse for files or folders to decrypt. When your encrypted contents are loaded into Crypt, a status message appears at the bottom of the application, displaying the number of items ready for decryption.

To unlock protected content, fill in the encryption passphrase and click **Decrypt**. The files are unlocked and the results displayed in the window:
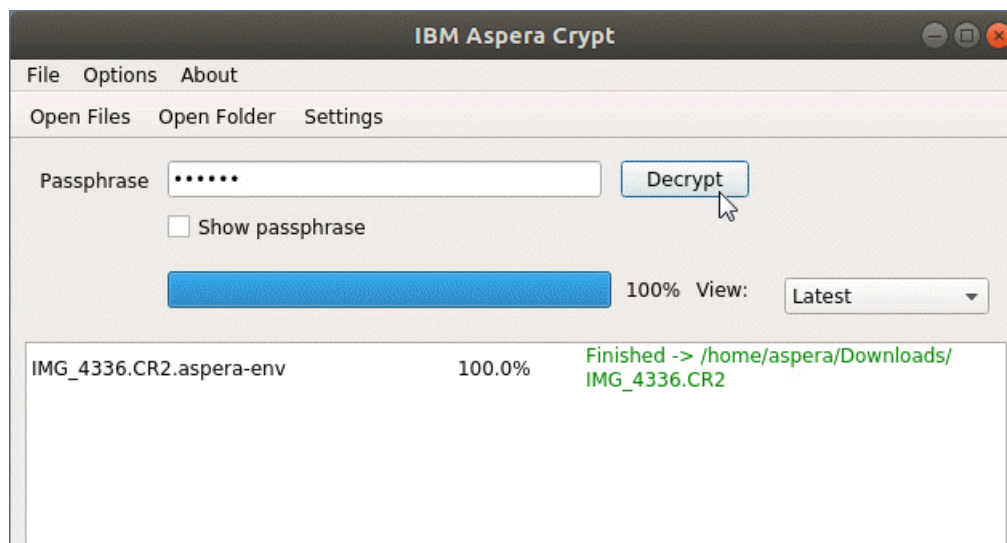
The decrypted files are placed in the same directory as the original encrypted files:

If you choose to decrypt a file and there is already an unencrypted file of the same name in that folder, the newly decrypted version appears in the Crypt window and the folder listing with "(decrypted)" added to the filename, as in the above example. However, note that if you decrypt the file yet again, the "(decrypted)" file is overwritten without notice.

Maintaining Your Connect Installation

Upgrading Connect

When a new version becomes available, Connect prompts you to confirm whether to upgrade.

Note: Before upgrading, ensure that you have no previous Connect installations on your system – either single-user or system-wide.

To download the latest version of Connect, go to http://downloads.asperasoft.com/connect. Click **Download Now** and follow the on-screen instructions. This downloads the latest installer.

You are also prompted to upgrade with the following pop-up if you attempt a download and Connect is not found or otherwise unable to launch:

If Connect is not installed, or is out of date, you can download it from here by clicking **Download latest version**. If Connect s already installed, you can click **Troubleshoot** to open the IBM Aspera Connect Diagnostic Tool. You can also access the tool here:

```
https://test-connect.asperasoft.com/
```

Uninstalling

The Connect installation provides scripts for uninstalling Connect.

Uninstalling the Connect Application

Important: You must quit Connect before uninstalling it.

After you have quit the Connect application, run the the following script to uninstall it:

```
$ ~/.aspera/connect/var/uninstall.sh
Uninstall finished.
```

Removing the Connect Browser Extension

For Chrome and Firefox, the browser extension is removed separately, as described below.
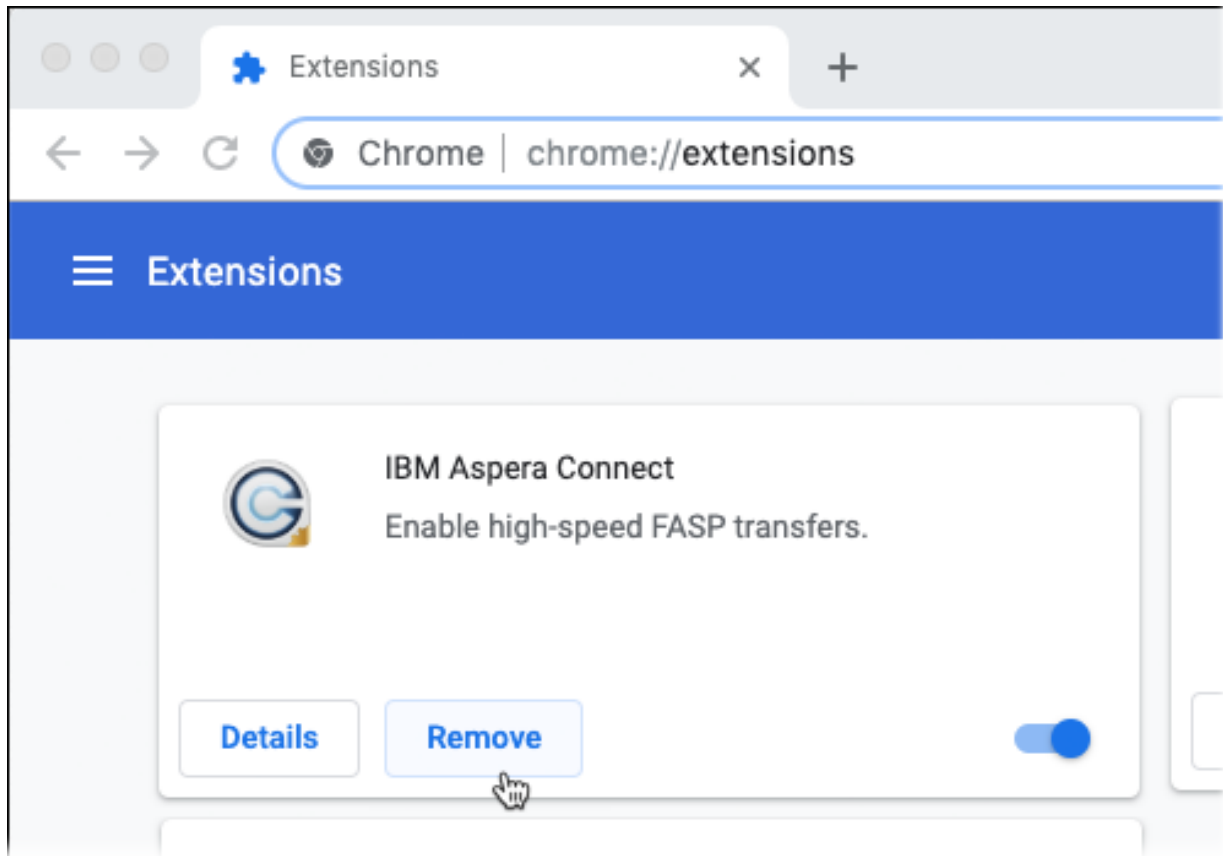
<u>**Chrome**</u>

To remove the extension from Chrome, click the three-dot icon in the upper right corner of the Chrome window.

Note: In certain circumstances, the default three-dot icon may not be visible while displaced by other icons. For example, a circular yellow/orange icon with an arrow indicates Chrome needs to be updated.

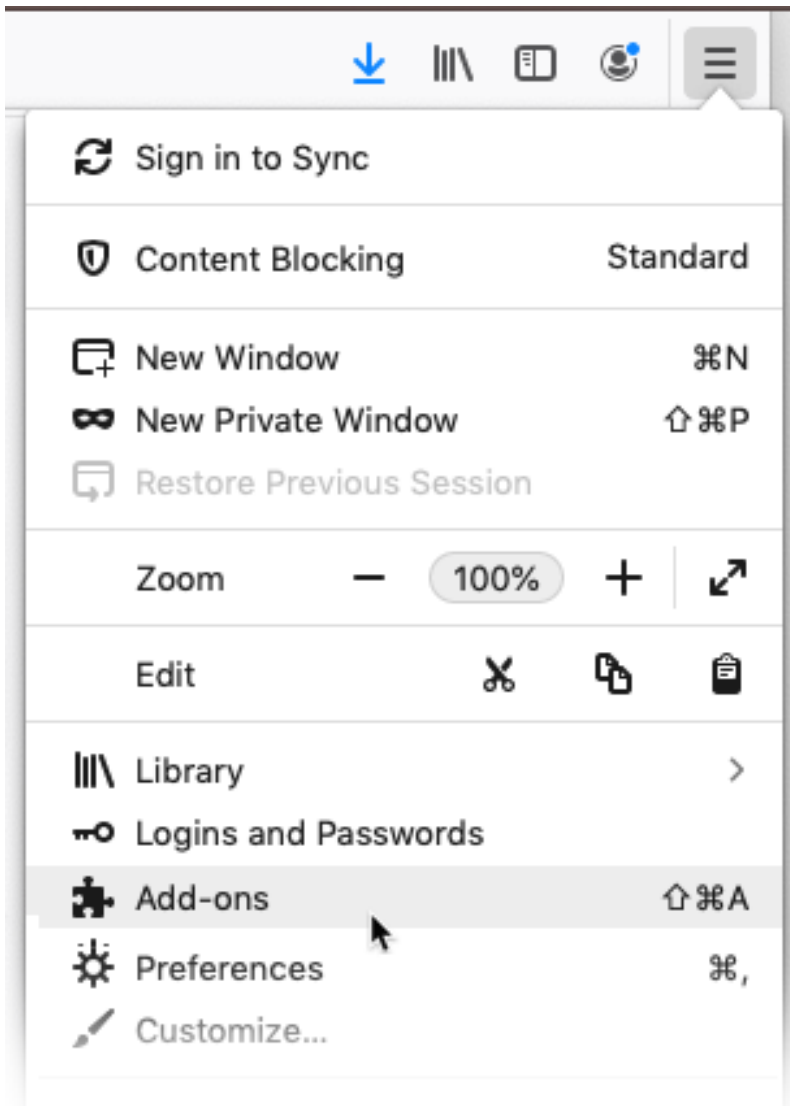In the drop-down menu that opens, choose **More Tools > Extensions**:
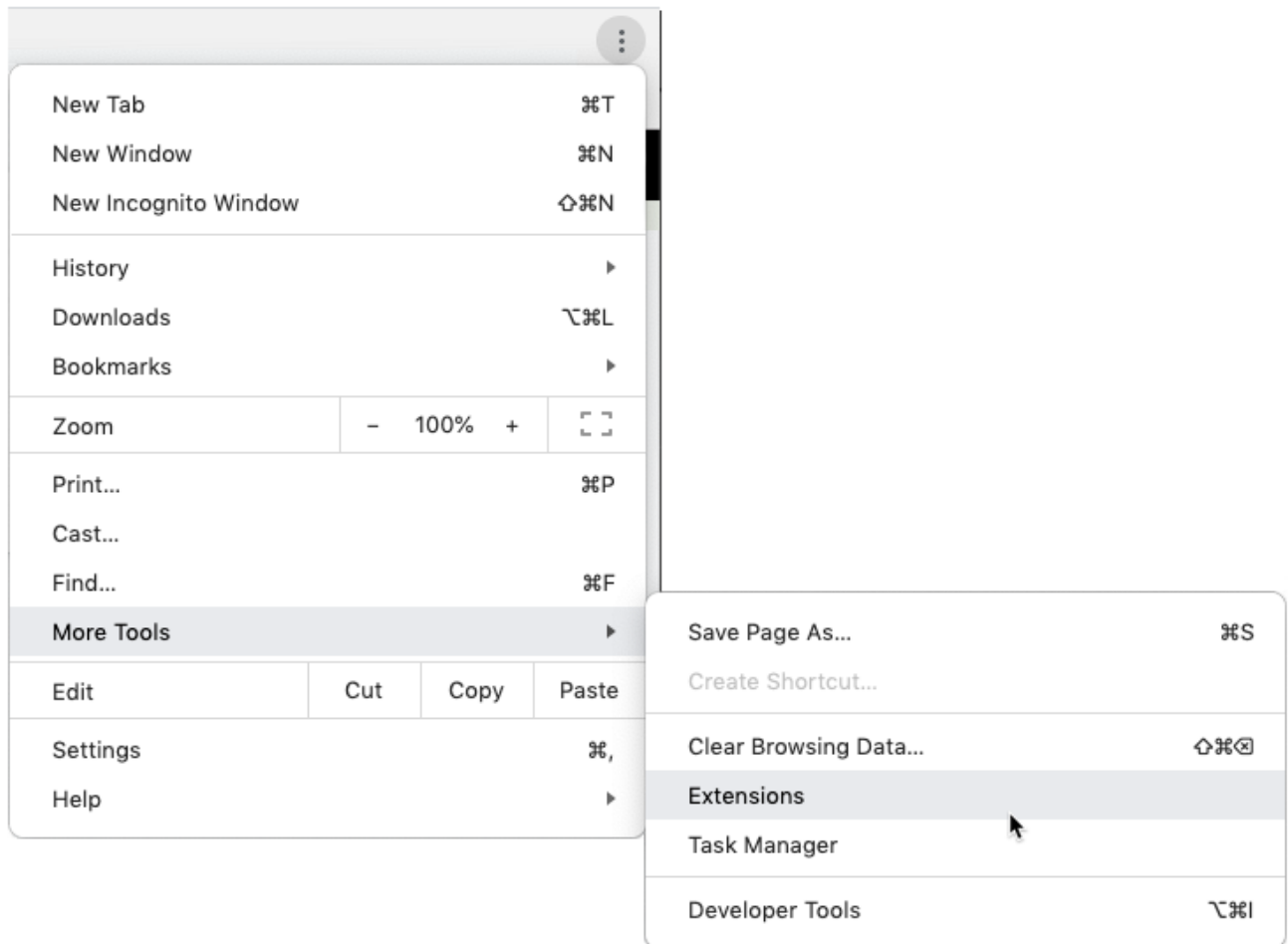
The **Extensions** tab opens. Look for the panel with the Connect extension and click **Remove**:

The Connect extension is now removed from Chrome.

<u>Firefox</u>

To remove the Connect extension for Firefox, open the three-bar icon in the upper right corner of the browser window, and click **Add-ons**:

The **Add-ons Manager** tab opens. Look for the panel with the Connect extension and click **Remove**:
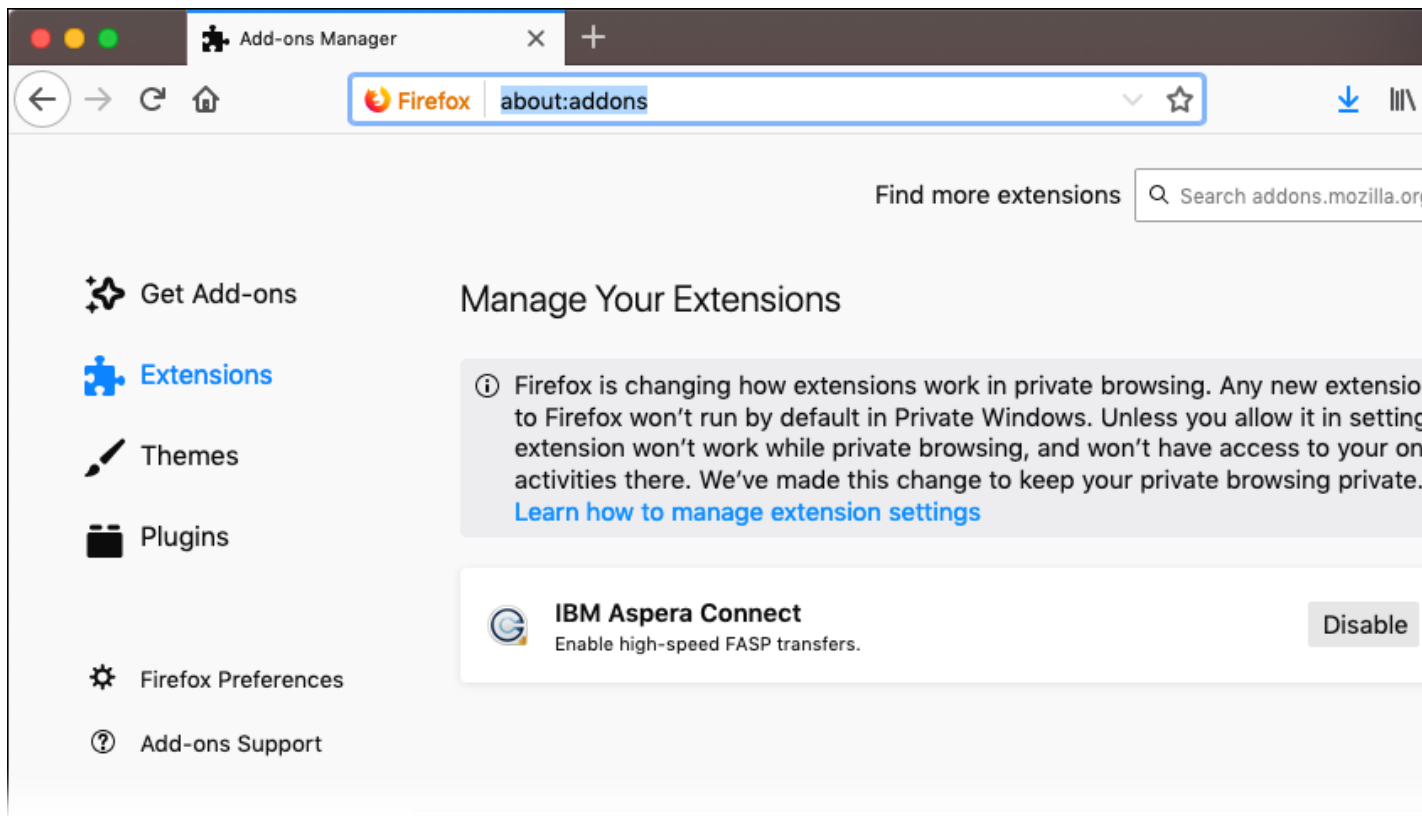
The Connect extension is now removed from Firefox.

Appendices

Log Files

You can access Connect log files from within Connect or from your file system.
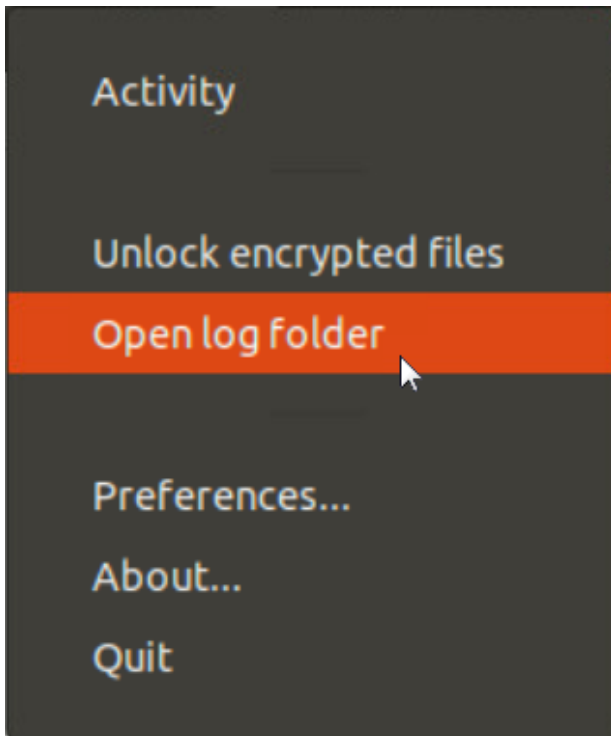
Log Files

- `aspera-connect.log`
- `aspera-scp-transfer.log`
- `nativemessagehost.log`

Log File Location

Log files are located in the following location:

```
~/.aspera/connect/var/log/
```

You can also access the log folder from the Connect menu in the menu bar: G > **Open log folder**

Deploying Connect Extensions in Closed Environments

Locked-down or enterprise environments without access to the public internet generally require special steps to acquire and enable Connect web extensions. Depending on OS platform and browser, there are a number of methods for doing so.

Chrome

Method: Manual deployment Using Drag and Drop

1. Download the Connect extension CRX file from Connect download page.
2. Open `chrome://extensions`
3. Enable developer mode.
4. Drag-and-drop the CRX file into the `chrome://extensions` window to install.

Firefox

Method: Manual deployment

1. Download the Connect extension XPI file from Connect download page.
2. Open `about:addons`
3. From the menu, select **Install Add-on From File**.

Method: Deploying Aspera Connect add-on with custom build of Firefox

See Mozilla documentation:

```
https://developer.mozilla.org/en-US/docs/Mozilla/Add-ons/WebExtensions/
Distribution_options/Add-ons_in_the_enterprise#Bundling_add-
ons_with_a_custom_Firefox
```

Whitelisting the Chrome Extension

By default, all Chrome extensions are whitelisted. However, if your organization blacklists all extensions by policy, you can override the blacklist and allow the Connect extension to be installed by adding it to the whitelist.

```
https://www.chromium.org/administrators/policy-
list-3#ExtensionInstallWhitelist
```

The instructional links below also include information on other extension-related policy settings that enable you to automatically install Chrome, force-install Chrome, and so on.

Note: These policies are intended strictly for configuring instances of Google Chrome internal to your organization. Use of these policies outside of your organization (for example, in a publicly distributed program) is considered malware and will likely be labeled as malware by Google and anti-virus vendors.

Provisioning Policy Using Chrome Policy Templates

1. Install Chrome policy templates: Detailed instructions can be found here:

```
https://support.google.com/chrome/a/answer/187202?hl=en
```

2. Set Chrome extension policies. Detailed instructions can be found here:

```
https://support.google.com/chrome/a/answer/7517525
```

   a. Create a file with the following contents in `/etc/opt/chrome/policies/managed/test_policy.json`:

```
{
    "ExtensionInstallWhitelist": ["kpoecbkildamnnchnlgoboipnblgikpn"]
}
```

   b. Restart Chrome.
   c. To verify that the policy has been applied, enter the following in the address bar:

```
chrome://policy
```

Troubleshooting

SELinux Prevents Access to Connect

SELinux (Security-Enhanced Linux), an access-control implementation, can prevent web UI access.

To disable SELinux:

1. Open the SELinux configuration file: `/etc/selinux/config`.
2. Locate the following line:

```
SELINUX=enforcing
```

3. Change the value to **disabled**:

```
SELINUX=disabled
```

Save your changes and close the file.

4. On the next reboot, SELinux is permanently disabled. To dynamically disable it before the reboot, run the following command:

```
# setenforce 0
```

AppArmor Prevents Access to Connect

AppArmor is a Linux security module that uses mandatory access control (MAC) to restrict some applications' system access. It may prevent Connect from running correctly on some Linux systems.

To disable AppArmor, enter the following commands on the affected computer:

```
# /etc/init.d/apparmor stop
# update-rc.d -f apparmor remove
```

Connectivity Issues

SSH Connectivity Errors: "Timeout establishing connection"

If you receive the error "Timeout establishing connection," the TCP connection between Connect and the server is blocked (error codes 13, 15, or 40 in the log files). To determine the cause, open a Terminal or a Command prompt on the client machine (where Connect is installed). Use telnet to test the connection to the server:

```
# telnet server-ip-address 33001
```

where *server-ip-address* is the IP address of the Aspera server (ex. 10.0.1.1) on TCP port 33001 (or the configured TCP port, if other than 33001).

You will receive one of the following errors and can take the appropriate action:

- **"Connection refused":** The Aspera server is not running the SSHD service. Have your server administrator review the server's SSH service status.
- **"Timeout":** The client-side firewall is disallowing outbound TCP traffic. Ensure that the client-side firewall allows outbound TCP traffic on port 33001 (or the configured TCP port).

UDP Connectivity Errors: "Data transfer timeout"

If Connect appears to successfully connect to the server but:

- The transfer progress reads 0%.
- Files appear to be transferred to the destination but are 0 bytes.
- You eventually receive the error "Data transfer timeout."

UDP connectivity is blocked, likely by the firewall configuration (error codes 14, 15, and 18 in the log files). Ensure that the client-side firewall allows outbound traffic on the FASP UDP port (33001, by default) and the server firewall allows inbound traffic on UDP port 33001.

IBM Aspera Connect Diagnostic Tool

Aspera provides a web-based diagnostic tool that can be useful for identifying connection issues. You can access the tool here:

```
https://test-connect.asperasoft.com/
```

Transfer Issues

Connect Won't Transfer .partial Files

With the default configuration for Connect, if you try to transfer files that have a `.partial` extension, you'll notice these files are skipped. This is because the `.partial` extension has special meaning for Connect. For a file in transit, `.partial` is the default temporary extension for the partial file on the receiving end before its transfer is complete. When the file's transfer is finished, the extension is removed.

You can transfer the skipped files by changing the name of the filename extension that Connect uses. Choose a name that you don't expect will be used by files you transfer.

To make this change:

1. Locate the Connect `aspera.conf` file on the machine at the receiving end of the transfer. The `aspera.conf` file is included in the Connect installation. Open it with a text editor:

   ```
   ~/.aspera/connect/etc/aspera.conf
   ```

2. Go to the line that begins with `<partial_file_suffix>`, and change `.partial` to a name your transfer files will not be using:

   ```xml
   <?xml version='1.0' encoding='UTF-8'?>
   <CONF version="2">

   <default>
       <file_system>
           <storage_rc>
               <adaptive>
                   true
               </adaptive>
           </storage_rc>
           <resume_suffix>.aspera-ckpt</resume_suffix>
           <partial_file_suffix>.partial</partial_file_suffix>
           <replace_illegal_chars>_</replace_illegal_chars>
       </file_system>
   </default>

   </CONF>
   ```

   Note: Removing the `<partial_file_suffix>` entry or setting it to a null value will not necessarily solve the problem. Doing so means the file extension used for partial files becomes whatever is set in the `aspera.conf` for `ascp`, which by default is `.partial`.

3. Save your changes to the the Connect `aspera.conf` file. The changes will take effect with the next trtansfer.

Technical Support

Support Websites

For an overview of IBM Aspera Support services, go to https://asperasoft.com/company/support/.

To view product announcements, webinars, and knowledgebase articles, as well as access the Aspera Support Community Forum, sign into the IBM Aspera Support site at https://www.ibm.com/mysupport/ using your IBMid (not your company Aspera credentials), or set up a new account. Search for Aspera and select the product. Click **Follow** to receive notifications when new knowledgebase articles are available.

Personalized Support

You may contact an Aspera support technician 24 hours a day, 7 days a week, through the following methods, with a guaranteed 4-hour response time.

Phone (North America)	+1 (510) 849-2386, option 2
Phone (Europe)	+44 (0) 207-993-6653 option 2
Phone (Singapore)	+81 (0) 3-4578-9357 option 2

Legal Notice