# Aspera Cargo User Guide 1.6.1

Mac OS X

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# Contents

# Introduction

IBM Aspera Cargo is a desktop tool that enables IBM Aspera Faspex users to automatically check for and download incoming Faspex packages.

With Cargo, you can perform the following tasks:

- Download Faspex packages to a directory of your choice.
- Monitor and adjust package download speed.
- Decrypt downloaded content in conjunction with IBM Aspera Crypt software.

| Benefit | Feature Description |
| --- | --- |
| Automatically downloads Faspex packages | Cargo is compatible with Faspex and can be configured to automatically download received packages. Cargo also supports multiple, concurrent FASP transfers. |
| Easy installation | Cargo is available as a small, installable package. |
| Lightweight | Cargo includes a headless daemon that runs using a configuration file. |

# Installation

## System Requirements

- Mac OS X system 10.8 or higher; Intel only.
- Valid Faspex user account credentials.

## Installing Cargo

Before installing Cargo, obtain from your system administrator the URL and credentials for at least one Faspex server for use with Cargo.

To install Cargo, do the following:

**1.** Go to the Aspera website, select the appropriate operating system and version, and click **Download**.

**2.** Drag the Cargo icon to the **Applications** folder.

You can launch Cargo by navigating to **Applications > Aspera Cargo Downloader**. A security prompt appears, asking if you want to open an application downloaded from the Internet. Click **Open** to continue.

## Upgrading Cargo

Upgrade Cargo by downloading the latest version from the Aspera website.

**1.** Navigate to the Aspera website.

**2.** Follow the instructions in Installing Cargo on page 3 to run the installation program on your desktop to overwrite the existing version of Cargo.

**Note:** When you upgrade to the current version of Cargo, your existing **asperacargod.conf** file is retained, using the same filename. The installer program also installs a new blank configuration file, **asperacargod.conf.new**.

## Uninstalling Cargo

1. To uninstall Cargo, navigate to **/Applications**, select **Aspera Cargo Downloader** and move it to the Trash.
2. Run the following script to remove residual files:

```
# rm -rf ~/.aspera/cargodownloader
```

## Installing the Cargo Daemon

Use the Aspera installation program to set up CargoD on your computer.

1. Go to the Aspera website, select the appropriate operating system and version, and click **Download**.
2. Double-click the downloaded **.dmg**, and then the resulting **.pkg** file, to start the installer.
3. Click **Continue** to proceed through the installer screens, then click **Agree** to accept the license agreement.
4. Click **Install** and enter the Administrator credentials.
5. In a text editor, edit the Cargo configuration file.

   For instructions, see Configuring the Cargo Daemon.
6. Finally, stop and restart CargoD.

   **Note:** You must restart CargoD in order for your configuration settings to take effect. For instructions, see Starting and Stopping CargoD.

## Uninstalling the Cargo Daemon

1. To uninstall CargoD, run the following command:

```
$ sudo "/Library/Application Support/Aspera/CargoD/uninstall.sh"
```

2.

# Configuring Preferences

## General Preferences

1. Open the **Preferences** dialog:

   Launch Cargo. Locate the **Aspera Cargo Downloader** icon in the menu bar, right-click the icon, and select **Preferences**.
2. Click **General** to set up the following general preferences:

| Field | Description |
| --- | --- |
| **Open Transfers window when a transfer is added** | Select this check box to open the Transfers dialog when a transfer is added. This check box is selected by default. |

| Field | Description |
|---|---|
| **Close Transfers window when all transfers are complete** | Select this check box to automatically close the Transfers dialog when all transfers are complete. |
| **Remove transfer list items** | Select whether to remove the entry automatically from the transfer view after it has completed or to manually remove items. By default, manually removing items is selected. |
| **Enable queuing** | Queuing allows a fixed number of concurrent transfers specified by the Maximum concurrent transfers value. Remaining transfers are queued and will not be started until the number of concurrent transfers goes below the maximum. When queuing is disabled, all transfers will run concurrently. |
| **Maximum concurrent transfers** | When queuing is enabled, you can enter a maximum number of concurrent transfers in this field. When queuing is not enabled, this field is unavailable. |
| **Check for new packages** | Select the time interval to wait between checking for new packages. |
| **Create separate folders for packages** | By default, multiple packages with the same title will be downloaded into separate folders. When unchecked, all contents of multiple packages with the same title will be downloaded into a single folder. |

**3.** Click **Apply** to apply and save your settings, or click **Close** to cancel your selections.

## Transfer Preferences

**1.** Open the **Preferences** dialog:

Launch Cargo. Locate the **Aspera Cargo Downloader** icon in the menu bar, right-click the icon, and select **Preferences**.

**2.** Click **Transfers** to set up the following transfer preferences:

| Field | Description |
|---|---|
| **Automatically retry failed transfers**<br><br>• **Attempts**<br>• **Interval** | When enabled, Cargo makes a specified number of attempts in a specified time interval to retry failed transfers. Select whether to enable retrying failed transfers. Specify the number of attempts and the interval in which Cargo will try to resend in seconds, minutes, or hours.<br><br>By default this feature is enabled with three retry attempts and in 30-second intervals. |
| **Logging Level** | Choose the level of information to be recorded in the Aspera Drive logs. Options are: Info, Debug, or Trace.<br><br>**Note:** Do not change this setting unless asked to do so by Aspera Technical Support. |

**3.** Click **Apply** to apply and save your settings, or click **Close** to cancel your selections.

## Network Preferences

**1.** Open the **Preferences** dialog:

Launch Cargo. Locate the **Aspera Cargo Downloader** icon in the menu bar, right-click the icon, and select **Preferences**.

**2.** Click **Network** to set up the following network preferences:

| Field | Description |
|---|---|
| **Use HTTP Proxy**<br><br>• **Username**<br>• **Password**<br>• **Address**<br>• **Port** | If you selected **Manual**, from the previous drop-down list, the fields for manual configuration of the HTTP Fallback Proxy become available. These fields are not available for configuration if you selected **System** in the previous drop-down list.<br><br>Cargo will use the proxy server you continue when HTTP fallback transfers are occurring.<br><br>• Type your username.<br>• Type your password.<br>• Type your server's URL or IP address and port number. |
| **Use FASP Proxy (DNAT)** or **Secure (DNATS)**<br><br>• **Username**<br>• **Password**<br>• **Address**<br>• **Port** | When FASP proxy is enabled, Aspera passes the DNAT or DNATS (secure) username, server address, and port to **ascp**.<br><br>Select the appropriate check box to use FASP proxy with DNAT or DNATS.<br><br>• Type your server username.<br>• Type your server password.<br>• Type your server's URL or IP address and port number. |

**3.** Click **Apply** to apply and save your settings, or click **Close** to cancel your selections.

## Bandwidth Preferences

**1.** Open the **Preferences** dialog:

Launch Cargo. Locate the **Aspera Cargo Downloader** icon in the menu bar, right-click the icon, and select **Preferences**.

**2.** Click **Bandwidth** to set up the **Limit to** field.

**3.** In this field, specify the download rate in either megabits per second (Mbps) or kilobits per second (Kbps). This limit is applied to each individual transfer.

**4.** Click **Apply** to apply and save your settings, or click **Close** to cancel your selections.

# Managing Accounts

## Adding Accounts

**1.** Open the **Preferences** dialog:

Launch Cargo. Locate the **Aspera Cargo Downloader** icon in the menu bar, right-click the icon, and select **Preferences**.

**2.** Click **Accounts**.

**3.**
To add an account, click ⊞ and provide the information listed in following table:

| Field | Description |
|---|---|
| **Description** | The name of the account. The name is used only by Cargo. |
| **Host URL** | The URL address for the server, and the port number (if applicable). |
| **User** | The username that you have on the Faspex transfer server. |

| Field | Description |
|---|---|
| **Password** | The password that you have on the Faspex server. |
| **Automatically decrypt files on download**<br><br>• **Passphrase**<br>• **Confirm** | Specify whether to decrypt files automatically when downloading them. When this option is checked:<br><br>• Enter the passphrase to use when decrypting files.<br>• Confirm the passphrase by typing it again.<br><br>If there is a passphrase mismatch, the file is left encrypted, but downloads successfully. In this case, you can use the **Unlock encrypted files** link to manually decrypt files. |
| **Save downloaded files to** | Specify a folder to which to save the downloaded file to. You can choose the default folder, which is typically a folder in your local environment, or you can click **Browse** to select a different folder. |

4. Click **Apply** to add the account and save the account settings, or click **Close** to cancel your selections.

## Deleting Accounts

1. Open the **Preferences** dialog:

   Launch Cargo. Locate the **Aspera Cargo Downloader** icon in the menu bar, right-click the icon, and select **Preferences**.

2. Click **Accounts**.

3. Click [ - ] to remove an account.

   A dialog appears that prompts you to confirm the account removal, and to inform you that in case of a removal all account transfers and services will be stopped and removed.

4. Click **Apply** to remove the account, or click **Close** to cancel the account removal.

# Using Cargo

## Downloading Packages

**Note:** Ensure that Cargo is running in order to download packages. If you quit Cargo, it no longer retrieves packages. However, you can still log into your Faspex transfer server to download them manually from the web.

You can view and manage all package transfer sessions within the **Transfers** dialog.

1. To open the **Transfers** dialog, click the Cargo icon and select **Transfers**.
2. Use the following buttons in the **Transfers** dialog to control and get information on your transfers:

| Field | Description |
|---|---|
|  | Open the Transfer Monitor. For information on using the Transfer Monitor to control transfer speed, see Monitoring Transfers on page 8. |
|  | Go to where the file is located on your computer. |
|  | Stop the transfer session. |

| Field | Description |
|---|---|
| ▶ | Resume a paused, queued, or canceled transfer. |
| ↻ | Retry a failed transfer or manually start a queued transfer. |

**3.** If Cargo retrieves encrypted packages, you can decrypt them using the application Aspera Crypt. For additional information, see Decrypting Packages on page 9.

**Queuing**

When the queuing option is enabled, your settings determine the number of permitted concurrent transfers. Additional transfers are queued in the Transfers dialog and initiated when a transfer is finished. You can start a queued transfer manually by clicking ↻. Your most recent transfer is shown at the top of the list. For more information on queuing, see General Preferences on page 4.

**Maximum Packages for Download**

Each time Cargo performs a check on your Faspex server, it reads only up to 250 of the latest packages (or last-seen packages) for potential download. Packages older than the latest 250 are not detected.

## Monitoring Transfers

You can monitor and adjust file transfer speed by clicking ⌁ to open the Aspera Connect **Transfer Monitor** dialog. If you have sufficient server privileges and your transfer server is configured to allow it, you can modify the following:

| Field | Description |
|---|---|
| Transfer progress bar | Adjust the file transfer speed by clicking and dragging the transfer rate slider. |
| 🔍 | Click to view the destination folder of the transferred files. |
| ✕ | Click to stop the transfer session. |
| Transfer policy<br><br>• Fixed<br>• High<br>• Fair<br>• Low | Select the transfer policy from the drop-down list:<br><br>• 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.<br>• The transfer rate is adjusted to use the available bandwidth up to the maximum rate.<br>• 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 not less than the minimum rate.<br>• 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. |

**Note:** You can only switch between High and Fair transfer policies if the host is running IBM Aspera Enterprise Server version 3.0 or later.

## Decrypting Packages

Encrypted files are protected from unwanted access. When encrypted files arrive at their destination, you need to decrypt them before you can use them. Cargo works in conjunction with IBM Aspera Crypt to decrypt the contents.

**Note:** Decrypting files requires a passphrase that the sender of the package used to encrypt the package. Ensure that you have that passphrase.

1. After Cargo has downloaded and saved your package to a specified folder, the **Transfers** dialog opens. Click **Unlock encrypted files** to begin the decryption process.
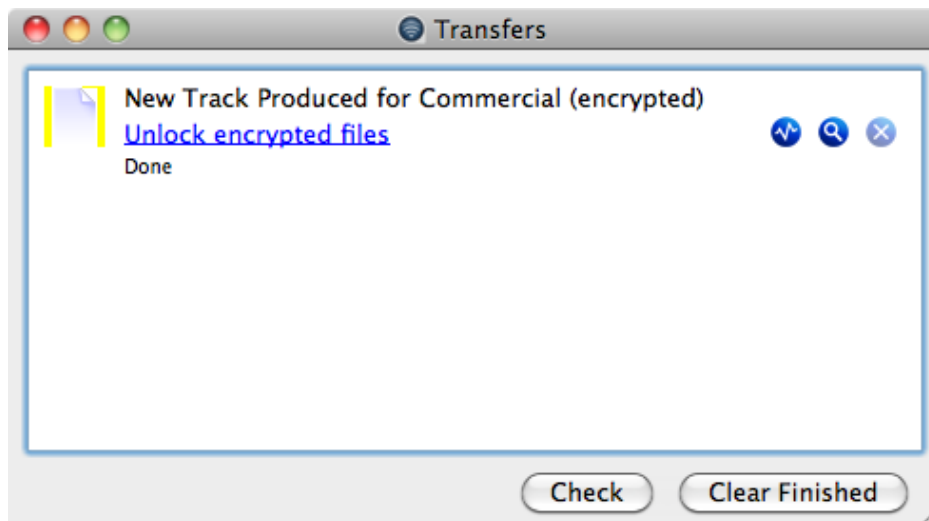


2. Type your passphrase into the text field. You can select the **Show Passphrase** check box to display your passphrase to verify its spelling.
3. Click **Decrypt** to decrypt your package and view the output. If you type an incorrect passphrase and click **Decrypt**, you receive a status message stating that decryption has failed.
4. You can view the output in the **Aspera Crypt** dialog.

    The decrypted contents appear in the same directory as the original encrypted contents. If the decrypted file (without the **.aspera-env** extension) already exists in that directory, *(decrypted)* is added to the filename.

    If your **Aspera Crypt** dialog has multiple decrypted items listed, you can use the **View** drop-down to sort the items by **Latest**, **Finished** or **Failed**.

## Troubleshooting

Cargo provides several error messages that you can use to troubleshoot issues with setup and data transfer.

| Error Message | Description |
| --- | --- |
| Error: Host requires authentication | You receive this error message if you add a Faspex account to Cargo and enter incorrect login credentials. To correct this error, confirm and reenter the username and password. |
| Error: Connection timed out | You receive this message if the Faspex URL or IP address that you have set up in the **Accounts** tab cannot be contacted. An incorrect URL or IP address or a network issue could cause this error. To correct this error, check your network connection and your host URL or IP address. |

# The Cargo Daemon

## Configuring the Cargo Daemon

Cargo includes a headless daemon, CargoD. To configure CargoD, open or create the following configuration file in a text editor:

**/Library/Aspera/CargoD/etc/asperacargo.conf**

A sample **asperacargo.conf** file is included below (and is built into the installation package). Your settings may differ from the example shown. At a minimum, change the required entries, as appropriate to your system.

**Note:** You must use XML-appropriate symbols when editing the configuration file. For example, &amp; instead of &.

**Important:** Enter your password in the <password> field in plain text. After you start the CargoD service for the first time, the password will be obfuscated so that an observer cannot deduce the password by reading the file.

**Important:** After editing the configuration file, you must stop and restart CargoD in order for your settings to take effect.

```xml
<?xml version='1.0' encoding='UTF-8'?>
<conf version="1">

<accounts>

    <!-- Add one or more accounts here. -->
    <account>

     <!-- Required. -->
     <user>faspexuser1</user>

     <!-- Required. -->
     <password>p@ssword</password>

     <!-- Required. eg. https://example.com/aspera/faspex -->
     <host>https://www.mycompany.com/aspera/faspex</host>

     <!-- Required. This is the location where all the account packages will
 be downloaded. -->
     <download_folder>/incoming_packages/</download_folder>

     <!-- Optional. If specified, Cargo will attempt to decrypt during
 download. -->
     <passphrase>p@ssword</passphrase>

      <!-- Optional. Cargo stops looking for packages with sequence IDs less
 than or equal to
      this number. (The default is 0.) -->
      <last_sequence_id>0</last_sequence_id>

      <!-- Optional. Cargo will ignore invalid certificates. (The default is
 false.) -->
      <ignore_invalid_cert>false</ignore_invalid_cert>

    </account>

</accounts>

<general>
```

```
    <!-- Optional. Time, in minutes, to check for new packages. Valid values
 are 1, 5, 15, 30, 60. (default 15) -->
    <check_interval>5</check_interval>

    <!--Optional. This is the number of concurrent transfers allowed to run
 at the same time.
    0 means that queuing is off and all transfers will run immediately. (The
 default is 1.) -->
    <concurrent_transfers>1</concurrent_transfers>

    <!-- Optional. This is the maximum number of active or failed transfers
 in the queue.
    If the max is reached, failed transfers will be removed.
    If there are no failed transfers, no new transfers will be added. (The
 default is 100.) -->
    <max_transfers>100</max_transfers>

    <!-- Location of the Cargo database to write to or read from.
    (The default is $INSTALL_DIR/var.) -->
    <db_dir></db_dir>

</general>

<transfers>

    <!-- Optional. Set to true to download packages to unique folders. (The
 default is true.) -->
    <separate_folders></separate_folders>

    <!-- Optional. Number of retries for failed transfers. (The default is
 3.) -->
    <retry_attempts></retry_attempts>

    <!-- Optional. Interval, in seconds, between retries. (The default is
 30.) -->
    <retry_interval></retry_interval>

    <!-- Optional. Specifies verbosity of logging.
    0 - info, 1 - debug, 2 - trace. (The default is 0.) -->
    <log_level></log_level>

</transfers>

<network>

    <http_proxy>
        <!-- Optional. Set to true to set fallback proxy settings. (The
 default is false.) -->
        <enable>false</enable>
        <username></username>
        <password></password>
        <address></address>
        <port></port>
    </http_proxy>

    <fasp_proxy>
        <!-- Optional. Set to true to set FASP proxy settings. (The default
 is false.) -->
        <enable>false</enable>
        <username></username>
        <password></password>

        <!-- dnat:// or dnats:// for secure FASP proxy. -->
```

```
        <address></address>
        <port></port>
    </fasp_proxy>

</network>

<bandwidth>

    <!-- Optional. Download bandwidth limit in Mbps. To let server decide,
 leave empty. -->
    <download_limit></download_limit>

</bandwidth>

</conf>
```

| Setting | Description | Values |
|---------|-------------|--------|
| User | *[Required]* Your Faspex user name (that is, your login ID). | |
| Password | *[Required]* Your Faspex account's password. For security, the `<password/>` tag is converted to `<password_obfuscated/>` upon successful parsing of the conf file. Subsequent reads of the conf file will use the obfuscated tag. | |
| Host | *[Required]* Faspex Server hostname or IP address. | |
| Download Folder | *[Required]* The directory that will be used to stored downloaded packages. | |
| Passphrase | *[Required]* Enter your passphrase to automatically decrypt packages upon download. If there is a passphrase mismatch, the file is left encrypted, but downloads successfully. For security, the `<passphrase/>` tag is converted to `<passphrase_obfuscated/>` upon successful parsing of the conf file. Subsequent reads of the conf file will use the obfuscated tag. | |
| Check Interval | *[Optional]* Time elapsed (in minutes) between checking for new packages. | Valid values are 1, 5, 15, 30, and 60 minutes. Default value is 15. |
| Concurrent Transfers | *[Optional]* The number of transfers that are allowed to run at the same time. | Default value is 1. A setting of 0 means that queuing is turned off (all transfers start immediately). |
| Max Transfers | *[Optional]* The maximum number of active or failed transfers in the download queue. If the max is reached, failed transfers will be removed. If there are no failed transfers, no new transfers will be added. ⚠ **CAUTION:** The `max_transfers` setting is an advanced feature intended for debugging purposes only. | Default value is 100. |
| DB Directory | *[Optional]* CargoD's database location. Note that *one* **asperacargod** process can access only *one* database location at a | Default value is `$INSTALL_DIR/var`. |

| Setting | Description | Values |
|---|---|---|
| | time. You can run multiple, concurrent **asperacargod** processes by creating a conf file and db directory for each process. | |
| Separate Folders | *[Optional]* Set to `true` to download packages with the same title to unique folders. | Default value is `true`. |
| Retry Attempts | *[Optional]* Number of retries for failed transfers. | Default value is 3. |
| Retry Intervals | *[Optional]* Interval between retries in seconds. | Default value is 30. |
| Log Level | *[Optional]* Specifies logging verbosity. | • 0 - info (default) <br> • 1 - debug <br> • 2 - trace |
| HTTP Fallback Proxy | *[Optional]* By setting `<enable/>` to `true`, you can modify the proxy configuration for the server handling HTTP fallback. HTTP fallback serves as a secondary transfer method when the Internet connectivity required for Aspera accelerated transfers (i.e., UDP port 33001, by default) is unavailable. If UDP connectivity is lost or cannot be established, then the transfer will continue over the HTTP protocol based on this proxy configuration. Note that the HTTP fallback settings include NTLM authentication credentials (username and password), as well as the host name/IP address and port number. | Default value is `false`. |
| FASP Proxy | *[Optional]* When FASP proxy is enabled, Aspera will pass the DNAT or DNATS (secure) username, server address and port to **ascp**. To enable FASP proxy, set set `<enable/>` to `true` and input your FASP proxy credentials, address (`dnat://` or `dnats://` for secure FASP proxy) and port. | Default value is `false`. |
| Download Limit | *[Optional]* Download bandwidth limit in Mbps. To let the server decide the limit, leave this setting empty. | |

## Using the Cargo Daemon

Cargo includes a headless daemon, CargoD. The help file below displays the **asperacargod** command-line options.

```
$ sudo /Library/Aspera/CargoD/bin/asperacargod -h
```

Usage: `asperacargod` *[options]*

```
Options:
  -h, --help                           Display usage
  -f CONF-FILE                         The path to the configuration file (see
 note below)
  -L LOG-DIR                           Logging dir
  -L-                                  Log to console
  -A, --version                        Display version
  --clear-db                           Clear database
```

**Note:** By default, **asperacargod** will try to load the configuration file from **/Library/Aspera/CargoD/etc/** . To explicitly define the location of your configuration file, use the **-f** option shown above.

**Examples**

**Note:** Your configuration file must contain all required settings before you can start CargoD. For details on modifying your configuration file, see Configuring the Cargo Daemon.

**Example 1:**

To manually start CargoD (assuming that your configuration file is located in the default location of **/Library/Aspera/CargoD/etc/**), use the command below.

```
$ sudo /Library/Aspera/CargoD/bin/asperacargod
```

The following output should appear on your screen:

```
$ sudo /Library/Aspera/CargoD/bin/asperacargod
Parsing configuration file /Library/Aspera/CargoD/bin/../etc/
asperacargo.conf
Config version 1
Database locked /Library/Aspera/CargoD/var/asperacargod.data.lock
Connected to database: /Library/Aspera/CargoD/var/asperacargod.data
Existing database version: 10
Starting Aspera CargoD...
Writing log files to: /Library/Aspera/CargoD/bin/../var/log/asperacargod.log
```

**Note:** CargoD is a system daemon that will automatically start when the system boots. After you have verified that it runs manually, restart the system. In the Activity Monitor, see that the **cargod** service is running.

**Example 2:**

To start CargoD and explicitly define the path to your configuration file, use the command below.

```
$ sudo /Library/Aspera/CargoD/bin/asperacargod -f /Library/CargoD/conf/
cargod-alt.conf
```

## The CargoD Logfile

CargoD logs data about the transfers it handles. You can use the CargoD logfile to view the status of your transfers.

**Logfile Location**

The CargoD logfile can be found at the following location:

**~/Library/Logs/Aspera_CargoD**

**Logfile Size**

CargoD creates a rolling log of a maximum of 10 logfiles, of ~10 MB each.

## The Cargo Logfile

Cargo logs data about the transfers it handles. You can use the Cargo logfile to view the status of your transfers.

**Logfile Location**

The Cargo logfile can be found at the following location:

**~/Library/Logs/Aspera_Cargo_Downloader**

**Logfile Size**

Cargo creates a rolling log of a maximum of 10 logfiles, of ~10 MB each.

# 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.

| Email | aspera-support@ibm.com |
|---|---|
| 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 |

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