IBM Aspera Cargo User Guide for Linux

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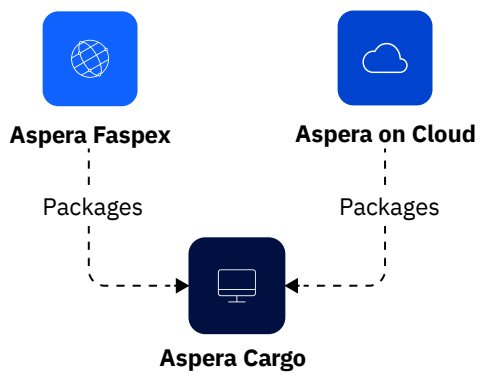Welcome to the Cargo documentation, where you can find information about how to install, maintain, and use Cargo.

Introduction

IBM Aspera Cargo is a command line tool that enables users of IBM Aspera on Cloud and IBM Aspera Faspex to automatically check for and download incoming packages.

Aspera Faspex   **Aspera on Cloud**

Packages   Packages

Aspera Cargo

Cargo adds the following benefits to your Aspera implementation:

Benefit	Feature description
Automatic download of Aspera packages	Cargo is compatible with Aspera on Cloud and Faspex and can be configured to automatically download received packages. Cargo also supports multiple, concurrent FASP transfers.
Custom download directory	You can download Aspera packages to the directory of your choice.
Easy installation	Cargo is available as a small, installable package.
Decryption of packages	You can use Cargo to decrypt downloaded content by using the IBM Aspera Crypt program.
Lightweight	Cargo runs in *headless* daemon that runs by using a configuration file.

Getting started with Cargo

Installing Cargo

Use the IBM Aspera installation program to set up the Cargo daemon on your computer.

1. Go to Fix Central and select the appropriate operating system and version.
2. Extract and install the package contents by using one of the following commands:

```
$ yum install ibm-aspera-cargo-version-linux-bits.rpm
```

```
$ apt-get install ibm-aspera-cargo-version-linux-bits.deb
```

3. Edit the Cargo configuration file, then import it.

   For instructions, see "Configuring Cargo for Aspera on Cloud" on page 3, "Configuring Cargo for Faspex 5" on page 6 or "Configuring Cargo for Faspex" on page 9.

   Note: If your environment includes different types of servers, you can create a single configuration file that lists the information for all of them.

4. Start the Cargo daemon.

   For instructions, see "Starting and stopping Cargo" on page 12.

   Note:

   Cargo downloads packages after the daemon starts receiving them.

Configuring Cargo for Aspera on Cloud

Cargo uses a configuration file to store the account information for your transfer servers and settings for the way that packages will be downloaded. Before Cargo can function correctly, you must specify these elements in the `.conf` file.

1. If Cargo is running, stop the daemon.
2. Find the sample configuration file at the following path.

   /opt/aspera/cargo/etc/aoc_jwt.sample.conf

   Note: Make sure that your configuration file is valid JSON. For example, if your path uses backslashes, use **/**.

3. In a text editor, modify the sample configuration file. See the following table for required fields.

   Note: If your environment includes different types of servers, you can create a single configuration file that lists the information for all of them.

4. Save your edited configuration file.

   You can change the file name of the sample file. Your new file name must end in `.conf`.

5. Import the file into Cargo.

```
$ sudo /opt/aspera/cargo/sbin/cargo -f path-to-config-file
```

6. For security, if you have set the **<passphrase_cleartext>** field, delete the configuration file after you have imported it, to avoid leaving the password in unencrypted form.

7. Now, start the Cargo daemon. See Starting and Stopping Cargo.

Sample configuration file

A sample configuration file is shown as follows (and is included in the installation package). Your settings may differ from the examples shown. At a minimum, change the required entries to your system, and import the file. For instructions, see the previous steps.

The text of the **aoc_jwt.sample.conf** file:

```
{
    "conf": {
        "accounts": [
            {
                "authentication_type": "JWT",
                "client_id": "",
                "client_secret" : "",
                "sso_host_type": 2
                "host": "https://sample.ibmaspera.com",
                "name": "Sample Aoc",
                "private_key": "/absolute/path/to/private_key",
                "user": "sample@domain.com",
                "packages": {
                    "check_interval_seconds": 900,
                    "download_dir": "/path/to/automatically/download/packages/to/",
                    "name": "Sample AoC Inbox",
                    "passphrase_cleartext": "",
                    "passphrase_enabled": false,
                    "separate_package_folders": true,
                    "skip_owner_packages": false,
                    "version": 2
                }
            }
        ],
        "version": 1
    }
}
```

Conf file fields and values

Field	Required/optional	Description	Values
authentication_type	Required.	Cargo's authentication type that is used with this transfer server. Do not modify the value in this field.	**JWT**
client_id	Optional. Set this field only if you want to use a custom client ID that you generated in	The client ID for the AoC organization.	To use the generic, default value, omit this field or leave it empty.

Field	Required/ optional	Description	Values
	AoC's Admin app.		
client_secret	Optional. Set this field only if you want to use a custom client secret that you have generated in AoC's Admin app.	The client secret for the AoC organization.	To use the generic, default value, omit this field or leave it empty.
host	Required.	The AoC server hostname or IP address.	
name	Required.	A human-readable name for your AoC server, for differentiation of multiple accounts.	
private_key	Required.	The full path to your SSH private key file.	
user	Required.	Your AoC username (usually an email address).	
packages fields:			
auto_start	Optional.	Sets whether Cargo should automatically start checking for packages when it is started.	Cargo sets this value to **true**.
check_interval_seconds	Optional.	The time, in seconds, to elapse between checking for new packages.	Valid values are **60**, **300**, **900**, **1800**, and **3600**. The default value is **900**.
download_dir	Required.	The absolute path to the directory that will be used to store downloaded packages.	
passphrase_cleartext	Optional; required for automatic package decryption.	The passphrase that Cargo must use for automatic decryption of packages upon download. If there is a passphrase mismatch, the file is left encrypted, but is downloaded successfully. For security, the value you enter in the **<passphrase_cleartext>** field is stored in an encrypted form when you import the configuration file.	

Field	Required/ optional	Description	Values
		Important: If you use the **<passphrase_cleartext>** field, be sure to delete the configuration file after you have imported it, to avoid leaving the password in unencrypted form.	
passphrase_enabled	Optional.	Set to **true** if you want Cargo to use a passphrase to decrypt packages. Set the passphrase itself in the **<passphrase_cleartext>** field.	The default value is **false**.
separate_package_fold ers	Optional.	Set to **true** if you want packages with the same title to be downloaded to unique folders.	The default value is **true**.
skip_owner_packages	Optional.	Set to **true** if Cargo must skip packages that you sent to yourself.	The default value is **false**.
version	Required.	Cargo-internal data. Do not modify the value in this field.	
sso_host_type	Required.	Attribute to differentiate the types of host/server. Do not modify the value in this field.	

Configuring Cargo for Faspex 5

⚠️ **CAUTION:** For Faspex 5.0.6 and later, you can't leave the **client_id** and **client_secret** values empty in the `faspex5_jwt.sample.conf` file.

Cargo uses a configuration file to store the account information for your transfer servers and settings for the way that packages will be downloaded. Before Cargo can function correctly, you must specify these elements in the **.conf** file.

1. If Cargo is running, stop the daemon.
2. Find the sample configuration file in the following path.

   /opt/aspera/cargo/etc/faspex5_jwt.sample.conf

   Note: Make sure that your configuration file is valid JSON. For example, if your path uses backslashes, use **/**.
3. In a text editor, modify the sample configuration file. See the following table for required fields.

   Note: If your environment includes different types of servers, you can create a single configuration file that lists the information for all of them.
4. Save your edited configuration file.

   You can change the file name of the sample file. Your new file name must end in `.conf`.
5. Import the file into Cargo.

   ```
   $ sudo /opt/aspera/cargo/sbin/cargo -f  path-to-config-file
   ```
6. For security, if you have set the **<passphrase_cleartext>** field, delete the configuration file after you have imported it, to avoid leaving the password in unencrypted form.
7. Now, start the Cargo daemon. See Starting and Stopping Cargo.

Sample configuration file

A sample configuration file is shown (and is included in the installation package). Your settings might differ from these examples. At a minimum, change the required entries to your system, and import the file. For instructions, see the previous steps.

The text of the **faspex5_jwt.sample.conf** file:

```
{
    "conf": {
        "accounts": [
            {
                "authentication_type": "JWT",
                "client_id": "",
                "client_secret" : "",
                "sso_host_type": 7
                "host": "https://sample.faspex5.com",
                "name": "Sample Faspex 5",
                "private_key": "/absolute/path/to/private_key",
                "user": "sample@domain.com",
                "packages": {
                    "auto_start": true,
                    "check_interval_seconds": 900,
                    "download_dir": "/path/to/automatically/download/packages/to/",
                    "name": "Sample Faspex 5 Inbox",
                    "passphrase_cleartext": "",
                    "passphrase_enabled": false,
                    "separate_package_folders": true,
                    "skip_owner_packages": false,
                    "version": 2,
                },
            }
        ],
        "version": 1,
    }
}
```

Conf file fields and values

Field	Required/ Optional	Description	Values
authentication_type	Required.	Cargo's authentication type that is used with this transfer server. Do not modify the value in this field.	**JWT**
client_id	Required for Faspex 5.0.6 and later. Optional for Faspex 5.0 and earlier. Set this field only if you want to use a custom client ID that you have generated in Faspex 5 Admin app.	The client ID for the Faspex 5 organization.	To use the generic, default value, omit this field or leave it empty. ⚠️ **Attention:** If you're using Faspex 5.0.6 or later this field cannot be left empty.
client_secret	Required for Faspex 5.0.6 and later.	The client secret for the Faspex 5 organization.	To use the generic, default value, omit this field or leave it empty.

Field	Required/ Optional	Description	Values
	Optional for Faspex 5.0 and earlier. Set this field only if you want to use a custom client secret that you have generated in Faspex 5 Admin app.		⚠️ **Attention:** If you're using Faspex 5.0.6 or later this field cannot be left empty.
host	Required.	The Faspex 5 server hostname or IP address.	
name	Required.	A human-readable name for your Faspex 5 server, for differentiation of multiple accounts.	
private_key	Required.	The full path to your SSH private key file.	
user	Required.	Your Faspex 5 username (usually an email address).	
packages fields:			
auto_start	Optional.	Sets whether Cargo should automatically start checking for packages when it is started.	Cargo sets this value to **true**.
check_interval_second s	Optional.	The time, in seconds, to elapse between checking for new packages.	Valid values are **60**, **300**, **900**, **1800**, and **3600**. The default value is **900**.
download_dir	Required.	The absolute path to the directory that is used to store downloaded packages.	
passphrase_cleartext	Optional; required for automatic package decryption.	The passphrase that Cargo must use for automatic decryption of packages upon download. If there is a passphrase mismatch, the file is left encrypted, but is downloaded successfully. For security, the value you enter in the **<passphrase_cleartext>** field is stored in an encrypted form when you import the configuration file. **Important:** If you use the **<passphrase_cleartext>** field, be	

Field	Required/ Optional	Description	Values
		sure to delete the configuration file after you have imported it, to avoid leaving the password in unencrypted form.	
passphrase_enabled	Optional.	Set to **true** if you want Cargo to use a passphrase to decrypt packages. Set the passphrase itself in the **<passphrase_cleartext>** field.	The default value is **false**.
separate_package_folders	Optional.	Set to **true** if you want packages with the same title to be downloaded to unique folders.	The default value is **true**.
skip_owner_packages	Optional.	Set to **true** if Cargo must skip packages that you sent to yourself.	The default value is **false**.
version	Required.	Cargo-internal data. Do not modify the value in this field.	
sso_host_type	Required.	Attribute to differentiate the types of host/server. Do not modify the value in this field.	

Configuring Cargo for Faspex

Cargo uses a configuration file to store the account information for your transfer servers and settings for the way that packages are going to be downloaded. Before Cargo can function correctly, you must specify these elements in the **.conf** file.

1. If Cargo is running, stop the daemon.
2. Find the sample configuration file in the following path.

   /opt/aspera/cargo/etc/faspex.sample.conf

   Note: Make sure that your configuration file is valid JSON. For example, if your path uses backslashes, use **/**.

3. In a text editor, modify the sample configuration file. See the following table for required fields.

   Note: If your environment includes different types of servers, you can create a single configuration file that lists the information for all of them.

4. Save your edited configuration file.

   You can change the file name of the sample file. Your new file name must end in `.conf`.

5. Import the file into Cargo.

   ```
   $ sudo /opt/aspera/cargo/sbin/cargo -f path-to-config-file
   ```

6. For security, if you have set the **<password_cleartext>** or **<passphrase_cleartext>** fields, delete the configuration file after you have imported it, to avoid leaving the password in unencrypted form.

Sample configuration file

A sample configuration file is shown (and is included in the installation package). Your settings might differ from the examples shown. At a minimum, change the required entries to your system, and import the file. For instructions, see the previous steps.

The text of the **faspex.sample.conf** file:

```
{
    "conf": {
        "accounts": [
            {
                "authentication_type": "BASIC",
                "sso_host_type": 1
                "host": "https://sample.com",
                "name": "Sample Faspex",
                "user": "username",
                "password_cleartext": "password",
                "packages": {
                    "check_interval_seconds": 900,
                    "download_dir": "/path/to/automatically/download/packages/to/",
                    "name": "Sample Faspex Inbox",
                    "passphrase_cleartext": "",
                    "passphrase_enabled": false,
                    "separate_package_folders": true,
                    "skip_owner_packages": false,
                    "version": 2
                }
            }
        ],
        "version": 1
    }
}
```

Conf file fields and values

Field	Required/ Optional	Description	Values
authentication_type	Required	Cargo's authentication type that is used with this transfer server. Do not modify the value in this field.	**BASIC**
host	Required	The Faspex server hostname or IP address.	
name	Required	A human-readable name for your Faspex server, for differentiation of multiple accounts.	
user	Required	Your Faspex username (usually an email address).	
password_cleartext	Required	The password for your Faspex account. For security, the value you enter in the **<password_cleartext>** field is stored in an encrypted form when you import the configuration file. **Important:** If you use the **<password_cleartext>** field, be sure to delete the configuration file after you have imported it, to avoid leaving the password in unencrypted form.	
packages fields:			
auto_start	Optional	Sets whether Cargo must automatically start checking for packages when it is started.	Cargo sets this value to **true**.

Field	Required/Optional	Description	Values
check_interval_seconds	Optional	The time, in seconds, to elapse between checking for new packages.	Valid values are **60**, **300**, **900**, **1800**, and **3600**. The default value is **900**.
download_dir	Required	The absolute path to the directory that is used to store downloaded packages.	
passphrase_cleartext	Optional; required for automatic package decryption.	The passphrase that Cargo must use for automatic decryption of packages upon download. If there is a passphrase mismatch, the file is left encrypted, but is downloaded successfully. For security, the value you enter in the **\<passphrase_cleartext>** field is stored in an encrypted form when you import the configuration file. **Important:** If you use the **\<passphrase_cleartext>** field, be sure to delete the configuration file after you have imported it, to avoid leaving the password in unencrypted form.	
passphrase_enabled	Optional	Set to **true** if you want Cargo to use a passphrase to decrypt packages. Set the passphrase itself in the **\<passphrase_cleartext>** field.	The default value is **false**.
separate_package_folders	Optional	Set to **true** if you want packages with the same title to be downloaded to unique folders.	The default value is **true**.
skip_owner_packages	Optional	Set to **true** if Cargo must skip packages that you sent to yourself.	The default value is **false**.
version	Required	Cargo-internal data. Do not modify the value in this field.	
sso_host_type	Required.	Attribute to differentiate the types of host/server. Do not modify the value in this field.	

Upgrading Cargo

Note: As of version 3.2.0, Cargo uses a new format for its configuration file. When you upgrade an existing installation, your previous configuration file is migrated automatically to the new format, and your existing accounts are retained. If you want to preserve the old configuration file, before you upgrade make a copy.

To update your existing Cargo installation, do the following:

1. Go to Fix Central and select the installer for your OS.

2. Follow the instructions in Installing Cargo to run the installation program on your desktop.

   Note: Installing the new version overwrites your existing version of Cargo, and removes your previous configuration file unless you archived it.

   The Cargo service starts automatically.

Uninstalling Cargo

To uninstall Cargo, use the system package manager to delete its contents. Use one of the following commands:

```
$ sudo rpm -e ibm-aspera-cargo
$ sudo dpkg -r ibm-aspera-cargo
```

Using Cargo

Cargo options

To see Cargo's command line options, use the following command to display the help file:

```
$ /opt/aspera/cargo/sbin/cargo -h
```

Usage

cargo [*options*]

```
-h, --help                         Display usage
-A, --version                      Display version
-f PATH                            Load configuration file and exit. Not to be run in
combination with other arguments.
-w PATH                            Export the configuration file to a local copy.
-q                                 Suppress error dialogs (when processing configuration)
-u                                 Uninstall application data.
--protocol                         Handle protocol url.
-L LOG-DIR                         Logging dir
-m PATH-to-asperacargod.conf       Migrate a Cargo 1.x config file to the current format.


-L-                                Log to console
-D                                 Set debug level to DEBUG
-DD                                Set debug level to TRACE
```

Starting and stopping Cargo

Before you can start the Cargo daemon, you must configure all required settings. For details on writing and importing the configuration file and on which settings are required, see "Configuring Cargo for Aspera on Cloud" on page 3 and "Configuring Cargo for Faspex" on page 9.

To start the Cargo daemon:

```
$sudo systemctl start cargo
```

To stop the Cargo daemon:

```
$sudo systemctl stop cargo
```

The Cargo log file

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

Log file location

The Cargo log file can be found at the following location:

`~/opt/aspera/cargo/var/log/`

Log file size

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

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