ADMIN CONSOLE \rightarrow USER MANAGEMENT \rightarrow

Directory Connector CLI

View in the help center: https://bitwarden.com/help/directory-sync-cli/

Directory Connector CLI

The Directory Connector CLI is suited toward work in environments where a desktop GUI is unavailable, or if you want to programmatically script directory sync operations using tools provided by the operating system (cron job, scheduled task, and more). The Directory Connector CLI can be used cross-platform on Windows, macOS, and Linux distributions.

Getting started

⊘ Tip

The desktop app and CLI share a database and configurations, so **simultaneous** use on a single machine is not recommended. The recommended path is to complete configuration and testing using the desktop app, and subsequently using the CLI to schedule automatic syncing to your production organization.

To get started using the Bitwarden Directory Connector CLI:

- 1. Download the CLI from one of the following links:
 - 📲 Windows CLI
 - 🧯 macOS CLI
 - 👌 Linux CLI

2. Extract the .zip and move the contents (bwdc and keytar.node) to /usr/local/bin or another directory in your \$PATH. Please note, keytar.node must be in the same directory as the primary bwdc executable.

Linux only: If not already installed, install **libsecret** with your package manager of choice. Note that the package is titled **libsecr** et-1-0 for Ubuntu and Debian specifically, users should find the equivalent title for their particular distribution:



Windows only: Windows users can add .

3. Verify that the bwdc command works in your terminal by running the following:



4. Connect Directory Connector to your directory using the bwdc config <setting> <value> command (see here).

5. Configure sync options by editing your data.json file (to learn more, see Directory Connector File Storage). Use the bwdc data-fi le command to obtain the absolute path of your data.json file.

Available sync options depend on the directory type in use, so refer to one of the following articles for a list of options available to

you:

- Sync with Active Directory or LDAP
- Sync with Azure Active Directory
- Sync with G Suite (Google)
- Sync with Okta
- Sync with OneLogin
- 6. Run the bwdc test command to check whether your configuration would sync the expected results.
- 7. Once your directory and sync options are properly configured, and bwdc test yields the expected results, run the bwdc sync command to start a live sync operation.

(i) Note

The --pretty flag can be included in bdwc commands to modify the output for readability.

Commands reference

login

Use the login command to log in to Directory Connector with your organization API key. If you don't have the API key, reach out to an organization owner. There are a few ways to use the login command:

• By itself:

Bash			
bwdc login			

Passing bwdc login by itself will prompt you to subsequently enter client_id and client_secret.

• With parameters:

Bash
bwdc login organization.b5351047-89b6-820f-ad21016b6222 yUMB4trbqV1bavhEHGqbuGpz4AlHm9

• With saved environment variables:

Bash

BW_CLIENTID="organization.b5351047-89b6-820f-ad21016b6222"

BW_CLIENTSECRET="yUMB4trbqV1bavhEHGqbuGpz4AlHm9"

bwdc login

Saving the environment variables BW_CLIENTID and BW_CLIENTSECRET allows you to login to Directory Connector using only bwdc login, which will check for those variables and use them if present.

If these environment variables aren't present, you will be prompted to enter your client_id and client_secret.

logout

Use the logout command to logout of the Directory Connector CLI.



help

The Bitwarden Directory Connector CLI is self-documented with - -help content and examples for every command. List all available commands using the global - -help option:

Bash		
bwdchelp		



Bash			
bwdc testhelp			
bwdc confighelp			

test

The test command queries your directory and prints a JSON formatted array of groups and users that would be synced to your Bitwarden organization whenever you run a real sync operation.

Bash

bwdc test

Use the --last option to test only the changes since the last successful sync.

Bash			
bwdc testlast			

sync

The sync command runs a live sync operation and pushes data to your Bitwarden organization.

Bash			
bwdc sync			

Synced users and groups will be immediately available in your Bitwarden organization. Newly added users will receive an email invite to your organization.

(i) Note

Om du har Teams Starter-plan är du begränsad till 10 medlemmar. Directory Connector visar ett felmeddelande och slutar synkronisera om du försöker synkronisera fler än 10 medlemmar.

Den här planen går inte längre att köpa. Det här felet gäller inte för Teams planer.

last-sync

The last-sync command returns an ISO 8601 timestamp for the last sync operation that was performed for users or groups. You must specify either users or groups as an <object> to run the command against:

Bash

bwdc last-sync <object>

Returns an empty response if no sync has been performed for the given object.

config

The config command allows you to specify your directory settings:

Bash

bwdc config <setting> <value>

Available options are:

Option	Description
server <server-url></server-url>	URL of your self-hosted installation (e.g. https://business.bitwarden.com) or EU server (http s://vault.bitwarden.eu).
directory <directory -type></directory 	Type of directory to use. See the following table for enumerated values.
ldap.password <passw ord></passw 	Password for connection to the LDAP server.
azure.key <key></key>	Azure AD secret key.
gsuite.key <key></key>	Google Workspace/GSuite private key.
okta.token <token></token>	Okta token.
onelogin.secret <sec ret></sec 	OneLogin client secret.

directory-type values

Source directory	Value
Active Directory/LDAP	0
Azure Active Directory	1
Google Workspace/GSuite	2
Okta	3
OneLogin	4

data-file

The data-file command returns an absolute path to the data.json configuration file used by the Directory Connector CLI:

Bash			
bwdc data-file			

Some configuration settings can be modified for the Directory Connector CLI by editing the data.json configuration file directly in your favorite text editor, however ldap.password, azure.key, gsuite.key, okta.token, and onelogin.secret can only be modified from the CLI using config, or from the desktop app.

clear-cache

The clear-cache command allows you to clear cached data that the application stores while performing sync operations. For more information, see Clear Sync Cache.



update

The update command allows you to check if your Directory Connector CLI is up-to-date:

Bash

bwdc update

If a newer version is found, the command will return a URL to download a new version. **The Directory Connector CLI will not automatically update.** You will need to use this URL download the new version manually.

△ Warning

If you using the CLI and desktop app together, it is important to ensure their versions match whenever in use. Running two different versions may cause unexpected issues.

Check the version of the Directory Connector CLI using the --version global option.

Troubleshooting

libsecret missing

If you receive an error message referring to the libsecret shared object Error: libsecret-1.so.0: cannot open shared object file: No such file or directory, you may need to install libsecret which is required to store things securely on the host.

dbus Errors

If you receive an error message referring to the dbus when using bwdc config, for example Failed to execute child process "d bus-launch" (No such file or directory) or Cannot autolaunch D-Bus without X11, assign the following environment variable to allow plaintext storage of secrets in data.json:

Bash

export BITWARDENCLI_CONNECTOR_PLAINTEXT_SECRETS=true

Debug

The debug environment variable can be added for troubleshooting information.

Plain Text

export BITWARDENCLI_CONNECTOR_DEBUG=true

Unable to get local issuer certificate

If you receive an error message that states unable to get local issuer certificate, set the NODE_EXTRA_CA_CERTS variable to your root.pem, for example:

Bash

export NODE_EXTRA_CA_CERTS="absolute/path/to/your/certificates.pem"

If you're using the desktop app, this may also manifest as the following error: Warning: Setting the NODE_TLS_REJECT_UNAUTHORI ZED environment variable to '0' makes TLS connections and HTTPS requests insecure by disabling certificate verification.

Failing to set private key

If you are receiving error Object does not exist at path "/org/freedesktop/secrets/collection/login" while configuring your private key, see the following steps to correct the issue.

The Bitwarden Directory Connector uses Linux's keyring, check that the following dependancies have been installed:



Next, run the following commands to start the daemon:

Bash	
export <(dhus-launch)	
dhus-launch	
<pre>qnome-keyring-daemonstartdaemonizecomponents=secrets</pre>	
echo ' <random-passphrase>' gnome-keyring-daemon -r -dunlock</random-passphrase>	

Following these commands, try to run the key again, for example:

Bash

bwdc config gsuite.key /path/to/key/