Cisco Brownfield Smart Licensing Tool Install Guide

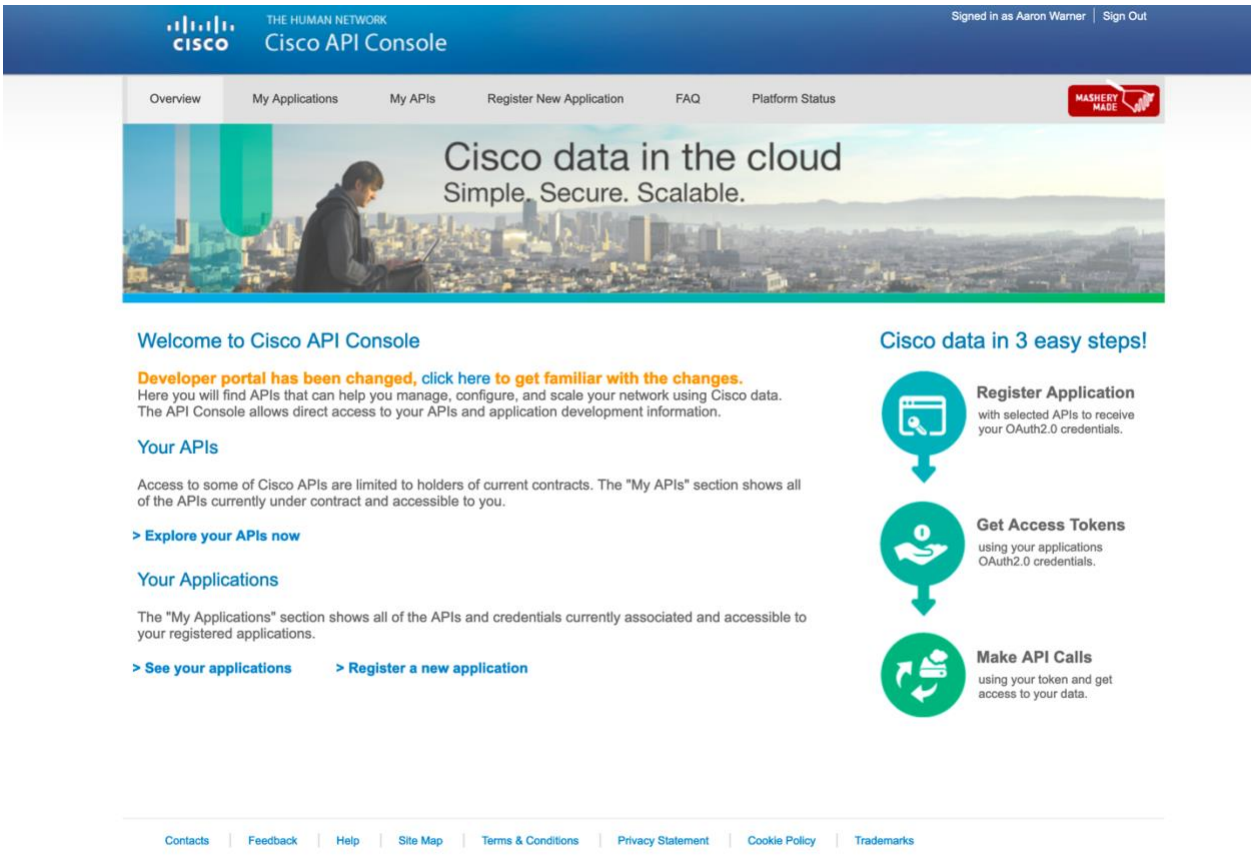
About the Cisco Brownfield Smart Licensing Tool

The Cisco Brownfield Smart Licensing Tool is a support tool for converting customers from traditional licensing to Cisco Smart Licensing. The Cisco Brownfield Smart Licensing Tool allows the user to search for entitlement data via serial numbers and sales order numbers. The tool enables the gathering of serial numbers from devices online in the existing network infrastructure.

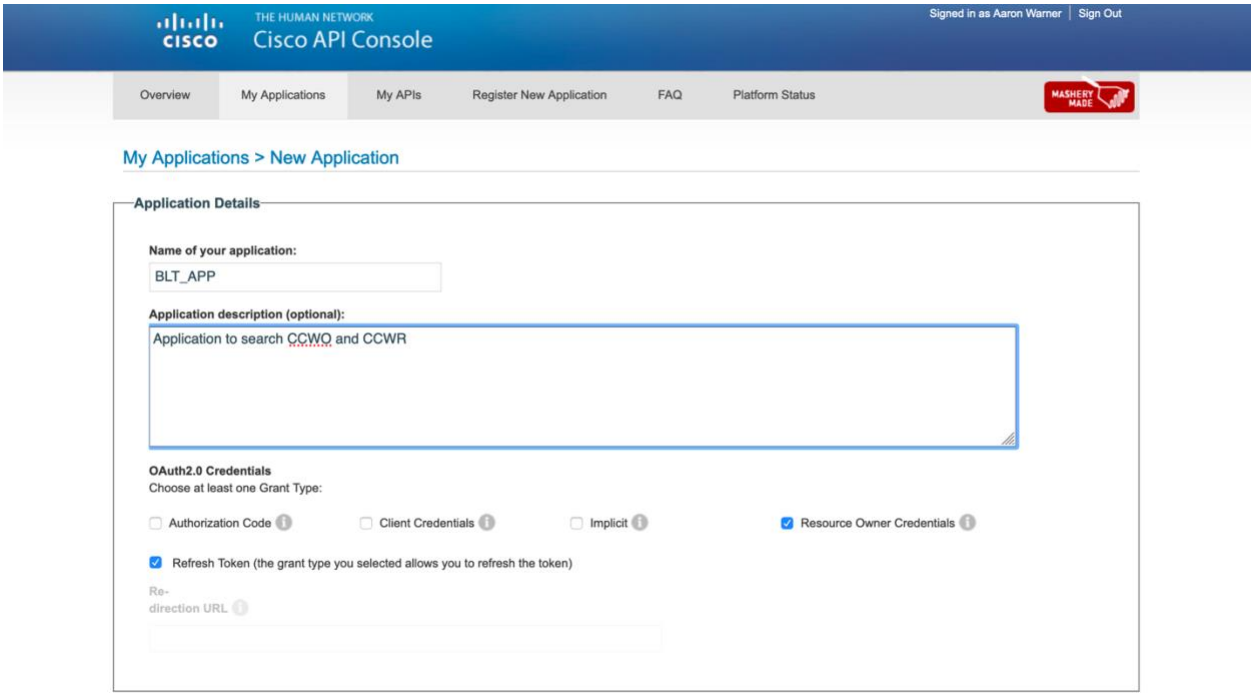
Registering for API Access

The Cisco Brownfield Licensing Tool requires access to the CCW Order API and the CCWR Contract Administration API. To request access to these API's browse to https://apiconsole.cisco.com/. This must be done once per installation of Cisco Brownfield Licensing Tool. The user registering the application must have a valid CCO account.

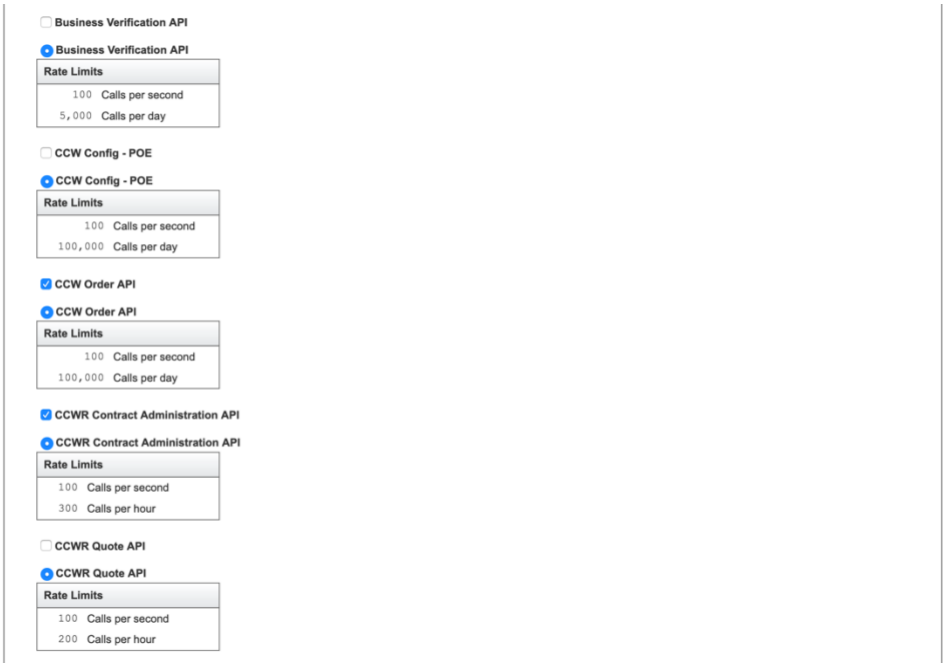
These API's require an Oauth 2.0 client id and client secret. To register the application, click on "Register a new application"



On the registration page fill out the name and application description. Under Oauth 2.0 Credentials check Resource Owner Credentials and check Refresh Token.

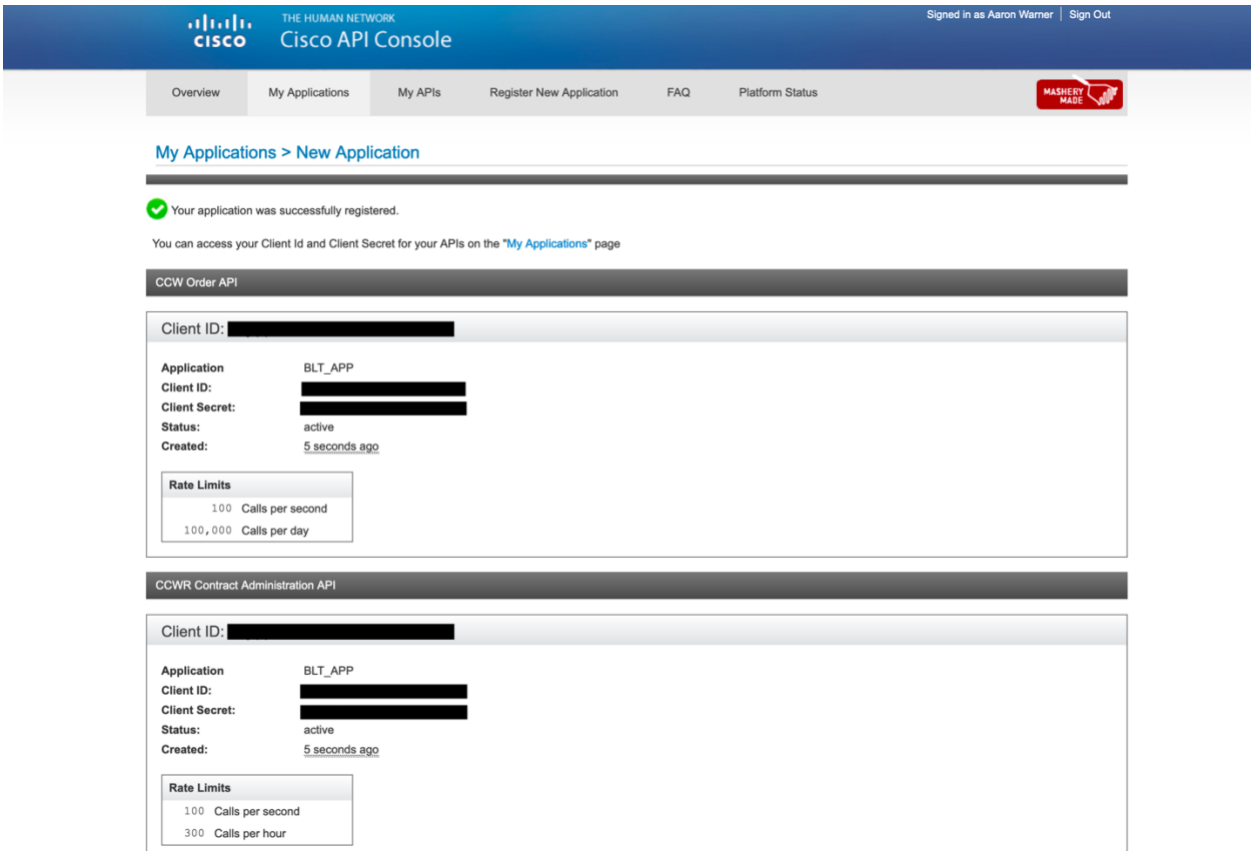


Scroll down the page and select the CCW Order API and the CCWR Contract Administration API.



Scroll down to the bottom of the page, agree to the terms of service, and click register.

Upon successful registration you will be redirected to a page which contains the client id and client secret for each API.



Create two JSON files in the Cisco Brownfield Licensing Tool directory called “ccw_order_cred.json” and “ccwr_client.json”. These files should be named exactly as specified. The CCW Order API client ID and client secret should be inserted into the “ccw_order_cred.json” and the CCWR Contract Administration API should be inserted in to the “ccwr_client.json”.

Both files should be formatted as follows:

{"client_id": "Insert your client ID", "client_secret": "Insert your client secret"}

Package Dependencies – All Platforms

- You must have Python 3.7 or higher installed on your machine.
- You must also have the following 3rd party Python packages installed:
    - Netmiko 2.4.1
    - Requests 2.22.0
    - Flask 1.0.2
    - PyOpenSSL 19.1.0

Installation for Windows

Python Install

1) Open up a browser and go to https://www.python.org. Scroll over to "Downloads" in the navigation bar. It will pop up with most current version of Python3.
2) Click on Python3 button. It will download latest Python3 to the Downloads directory.
3) Once download is complete, click on the downloaded file and then click on Run button. Setup window will pop up. In setup window, select 'Add Python 3.X to PATH' (Adding Python 3.X to PATH will allow to launch it just by typing python in the command prompt) and click on install now.
4) Once installation is complete, open command prompt and execute 'path' command in it. Make sure that Python3.X and Python3.X/Scripts are present in the path.
5) Open a new Command Prompt window. Type 'python' in the command prompt and it will open up python shell. Type 'quit()' to come out of python shell.
6) Now type 'pip freeze' in the command prompt and that will show currently installed python packages (Which should be blank if there are no python packages installed)

Using a Virtual Environment

Instead of installing packages needed for Cisco Brownfield Licensing Tool app system-wide, 'virtualenv' is used in these instructions to create an isolated Python environment, then required packages are installed into this virtual environment.

1) Install 'virtualenv'

"C:\Users\<user_id> pip install virtualenv"

Note: If operating in an offline environment see instructions for installing offline packages in Installing Required Python Packages*. Virtualenv is not listed in the requirements.txt file as using a virtual environment is optional.*

2) Create a new directory and change to it.

"mkdir C:\Users\<user_id>\BLT"
"cd C:\Users\<user_id>\BLT"

3) Create a new directory venv inside 'C:\Users<user_id>\BLT with separate python interpreter by executing following command

"C:\Users\<user_id>\BLT> virtualenv venv"

4) Activate virtualenv

"C:\Users\<user_id>\BLT > venv\Scripts\activate"

"(venv) C:\Users\<user_id>\BLT>"

NOTE: The (venv) prefix to prompt in the last line indicates that newly created virtual environment is activated. All subsequently installed packages from this modified command prompt end up in the activated virtual environment. Virtual environment can be deactivated with command 'deactivate'.

Download Cisco Brownfield Licensing Tool source code

App source can be cloned from GitHub Cisco Brownfield Licensing Tool repository.

Git Repository

Install Git on Windows (If Git is already installed, skip this section)

1) Go to the website: https://git-scm.com/download/win. If the download doesn't start automatically, then click on 'click here to download automatically'.
2) Click on the .exe file.
3) Click on 'Run' when security warning is shown.
4) Go through the default installation process until 'Choosing the default editor used by Git' is shown. A choice of an editor could be chosen.
5) Choose 'Use Git and optional Unix Tools', if user likes to use Unix commands like 'ls' and 'cat'.
6) Choose 'Use Windows' default console window.
7) Click on 'Install'.
8) Click on 'Finish'.
9) Open command prompt and get started!

To clone Cisco Brownfield Licensing Tool code

"(venv)C:\Users\<user_id>\BLT> git clone https://github.com/aawarner/BLT.git*"*

Installing Required Python Packages

For online installation simply run the below command from the BLT directory:

"pip install -r requirements.txt"

For offline installation you must download the required packages from an internet connected computer. Start by creating a new directory on the online computer.

"mkdir mypypi"
"cd mypypi"

You can then proceed to download the required packages by executing the below command:

"*pip download netmiko==2.4.1 requests==2.22.0 flask==1.0.2 pyOpenSSL==19.1.0"*

If using a virtual environment add "virtualenv" to the download command above.

At this point you will need to move this directory to the offline computer via some air gapped method. Once the directory is present on the offline computer you can install the packages by executing the following command from the Cisco Brownfield Licensing Tool directory:

"pip install --no-index --find-links=file:/<path to pypi directory> -r requirements.txt"

If using a virtual environment, you will need to install "virtualenv" as well.

"pip install –no-index –find-links=file:/<path to pypi directory> virtualenv"

Start Cisco Brownfield Licensing Tool

You can start Cisco Brownfield Licensing Tool by using the following command:

(venv)C:\Users\<user_id>\BLT\BLT> start python webui.py

Using Cisco Brownfield Licensing Tool

Open a browser and navigate to https://127.0.0.1:5000

Accept the self-signed certificate and begin using Cisco Brownfield Licensing Tool.

Installation for Mac OSX

Python Install

New MAC computers ship with Python3 pre-installed, execute the following command in a terminal to make sure that Python 3.7 or higher is installed.

"*python3 –version"*

NOTE: If Python 3.7 or higher is already installed, jump to Using virtualenv *section for installing virtual environment for Cisco Brownfield Licensing Tool).*

If Python is not installed on Mac, follow steps listed below:

1) Get Homebrew

Open a terminal window and execute the following:

/usr/bin/ruby -e "$(curl -fsSL https://raw.githubusercontent.com/Homebrew/install/master/install)"

2) Get Python3

"*brew install python3"*

3) Get pip3 package

"curl -O https://bootstrap.pypa.io/get-pip.py"

4) Install pip3

"*python3 get-pip.py"*

Using virtualenv

Instead of installing packages needed for Cisco Brownfield Licensing Tool app system-wide, 'virtualenv' is used in these instructions to create an isolated Python environment, then required packages are installed into this virtual environment.

1. Install "virtualenv"

"sudo -H pip3 install virtualenv"

2. To make a virtual environment in which all other packages are going to be installed first create a new directory and cd to the BLT directory in which environment is going to be set up.

"mkdir BLT"
"cd BLT"

3. Create a new directory "venv inside ':~ <user_id>\BLT with separate python interpreter by executing following command.

"virtualenv -p python3 venv"

4. Activate virtualenv

“source venv/bin/activate”
“(venv) BLT$”

NOTE: The (venv) prefix to prompt in the last line indicates that newly created virtual environment is activated. All subsequently installed packages from this modified command prompt end up in the activated virtual environment. Virtual environment can be deactivated with command 'deactivate'.

App source code

App source can be cloned from GitHub Cisco Brownfield Licensing Tool repository.

Git Repository Clone

Install Git on Mac (If Git is already installed, skip steps shown below and go to "To clone Cisco Brownfield Licensing Tool App code")

Open a Terminal on the Mac. Now, type the command (*'git --version'*) into the Terminal.

If git is not installed already, it will prompt to install it.

Read and agree to the Command Line Tools License Agreement and Git is ready to use.

To clone Cisco Brownfield Licensing Tool App code

“git clone https://github.com/aawarner/BLT-ASIC.git*”*

Installing Required Python Packages

For online installation simply run the below command from the BLT directory:

“pip install -r requirements.txt”

For offline installation you must download the required packages from an internet connected computer. Start by creating a new directory on the online computer.

“mkdir mypypi”
“cd mypypi”

You can then proceed to download the required packages by executing the below command:

“*pip download netmiko==2.4.1 requests==2.22.0 flask==1.0.2 pyOpenSSL==19.1.0”*

If using a virtual environment add “virtualenv” to the download command above.

At this point you will need to move this directory to the offline computer via some air gapped method. Once the directory is present on the offline computer you can install the packages by executing the following command from the BLT directory:

"pip install --no-index --find-links=file:/<path to pypi directory> -r requirements.txt"

If using a virtual environment, you will need to install "virtualenv" as well.

"pip install –no-index –find-links=file:/<path to pypi directory> virtualenv"

Start Cisco Brownfield Licensing Tool

You can start Cisco Brownfield Licensing Tool by using the following command:

(venv)C:\Users\<user_id>\BLT\BLT>python webui.py

Using Cisco Brownfield Licensing Tool

Open a browser and navigate to https://0.0.0.0:5000

Accept the self-signed certificate and begin using Cisco Brownfield Licensing Tool.

Installation for Linux

Python Install

New Ubuntu version ships with Python3 pre-installed, execute following command in terminal to make sure that Python 3.7 or higher installed.

"python3 –version"

User's computer might also have several versions of Python installed. The following command will help to get a list of all Python versions that are installed:

"apt list --installed | grep python"

NOTE: If Python 3.7 or higher installed, jump to Using virtualenv *section for installing virtual environment for Cisco Brownfield Smart Licensing Tool.*

If Python is not installed already, follow steps listed below:

1) The system repository index needs to be up to date so that the latest available version can be installed.

"sudo apt-get update"

2) Install/Upgrade Python3

“sudo apt-get install python3”
“sudo apt-get upgrade python3”

3) Before installing pip, a few prerequisites need to be added that will help in setting up virtual space.

“sudo apt-get install build-essential libssl-dev libffi-dev python-dev”

4) Install pip3 if it is already not installed

“sudo apt install python3-pip”

Using virtualenv

Instead of installing packages needed for Cisco Brownfield Licensing Tool system-wide, 'virtualenv' is used in these instructions to create an isolated Python environment, then required packages are installed into this virtual environment.

1) Install "virtualenv"

“sudo -H pip3 install virtualenv”

2) To make a virtual environment in which all other packages are going to be installed first create a directory in which the virtual environment is going to be set up.

“mkdir BLT”
“cd BLT”

3) Create a new directory "venv" inside BLT directory with separate python interpreter by executing following command.

“virtualenv -p python3 venv”

4) Activate virtualenv

“source venv/bin/activate”
(venv) BLT $

NOTE: The (venv) prefix to prompt in the last line indicates that newly created virtual environment is activated. All subsequently installed packages from this modified command

prompt end up in the activated virtual environment. Virtual environment can be deactivated with command 'deactivate'.

App source code

App source can be cloned from GitHub BLT repository.

Git Repository Clone

Install Git on Ubuntu (If Git is already installed, skip steps shown below and go to "Clone Cisco Brownfield Licensing Tool code")

1) Open a Terminal, type the command ('git --version').

"(venv) BLT $ git –version"

2) If git is not installed already, install it using command:

"(venv) BLT$ sudo apt install git"

3) Git installation can be confirmed by running the following command:

"(venv) BLT $ git –version"

Clone Smart Licensing App code

(venv) BLT $ git clone https://github.com/aawarner/BLT.git

Install Python Packages

Now required python packages can be installed for running Smart Licensing App.

(venv) BLT $ cd BLT
(venv) BLT $ pip3 install -r requirements.txt

Using Cisco Brownfield Licensing Tool

Open a browser and navigate to https://0.0.0.0:5000

Accept the self-signed certificate and begin using Cisco Brownfield Licensing Tool.